SCHOOL PSYCHOLOGY SERVICE PROVISIONS

WITHIN A PUBLIC HEALTH MODEL

by

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A DISSERTATION

Presented to the Department of Educational Methodology,
Policy, and Leadership
and the Graduate School of the University of Oregon
in partial fulfillment of the requirements
for the degree of
Doctor of Education

December 2012

DISSERTATION APPROVAL PAGE

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DISSERTATION ABSTRACT

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The purpose of this study was to explore specific activities school psychologists performed related to both testing and placing within a medical model and prevention within a public health model. Spurred by landmark legal mandates, school districts are moving toward preventative practice within a framework consistent with tenets of a public health model or Response to Intervention (RtI) framework. These activities are counter to traditional test-and-place activities performed by school psychologists associated with a medical model of service delivery. School psychologists assigned to 41 elementary schools in the northwest corner of Oregon completed a survey that included activities associated with testing-and-placing students typified by a medical model and those activities akin to a public health model.

All schools participating in this study implemented Positive Behavioral Interventions and Supports (PBIS). PBIS is a widely implemented evidence-based practice in education that emphasizes prevention and is a reflection of RtI or the public health model. Although PBIS was a common denominator across all schools, there were differences in overall implementation effectiveness as measured by the School-wide

Evaluation Tool (SET). This study investigated the degree to which activities performed by school psychologists impacted PBIS implementation in their buildings. School psychologists estimated the frequency devoted to these activities. Frequency served as a proxy for priority and also defined the service models that guided their practices. In addition to this descriptive statistical analysis, inferential statistics were used to measure the correlation between the School Psychologist Survey, the SET-General Index scores, and the SET-Behavior Expectations Index scores. A multiple-regression analysis was also conducted to determine which variable (i.e., SET-General Index or SET-Behavior Expectations Index) was the best predictor of outcome data from the School Psychologist Survey. These data were also entered into scatterplots to provide interpretations of meaningful statistical significance for an in-depth analysis of the School Psychologist Survey, SET-General Index, and SET-Behavior Index scores. This study is important because it potentially provides school psychologists with specific preventative activities they can perform within a public health model of service delivery to make contributions for improving the overall school environment for students.

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ACKNOWLEDGMENTS

I wish to express sincere appreciation to Dr. Gerald Tindal for his unwavering support and encouragement. His expertise helped to transform my unrefined topic of interest into a polished scientific study. In addition, very special thanks are due to Dr. Keith Hollenbeck for the direction he provided and for his willingness to always be available for questions and concerns inherent in the dissertation process. I especially appreciate the guidance he provided in building evidentiary support for my research. He was an inspirational force. Dr. Brigid Flannery was instrumental in the development of my dissertation with her research knowledge in the area of PBIS. Dr. Akhito Kamata deserves special recognition for vetting the School Psychologist Survey. I also owe a debt of gratitude to the school psychologists who participated in my study. Without their participation and dedication to their profession, there could have been no study. And, lastly, I would be remiss if I did not recognize the initial contribution of Dr. Robert Horner, who provided me consultation to build the initial framework of this study. His lifelong dedication to research that improves the learning environment for all students has been a constant source of inspiration.

I dedicate this work to my daughter, Adeline Marie Krankowski, born December 26, 2011. She inspired me, without uttering a word, to finish what I started. I am wishful that someday this educational accomplishment of mine will inspire her in some way. I also would like to dedicate this work to her mother, DeChantal Krankowski, who encouraged my every step. Without her encouragement, undoubtedly, I would have fallen short of this accomplishment.

TABLE OF CONTENTS

Chapter Page

Chapter Page

APPENDICES

LIST OF TABLES

Table Page

LIST OF FIGURES

Figure Page

CHAPTER I

INTRODUCTION

The K-12 educational system is at a crossroads between using the medical model and moving towards a public health model for working with at-risk students. This gap exists for both their academic and behavioral needs. The problem faced by school psychologists today is the delivery of compliance-based services versus preventative-based services. Sheridan and Gutkin (2000) advocated for the reduction of time in identifying and measuring problems, and increased involvement in prevention and promotion of wellness for the 21st century.

This philosophical changeover is problematic because current legal mandates, educational policy, and educational research indicate that most teachers, psychologists, counselors, and/or administrators within the larger educational system were trained to use the medical model in spite of the need for the public health model. Also, due to the scant research available on Response to Intervention (RtI) implementation for academic purposes, the federal government provided only ambiguous direction and guidance for implementation (Reynolds & Shaywitz, 2009), leaving practitioners with the daunting challenge of choosing assessments and treatments that fit within a broad framework, but still included a level of specificity to match their local context.

Because of the significant nature of this gap (Fuchs & Fuchs, 1998; Glover & DiPerna, 2007; Gresham, 2002; Kratochwill, Volpiansky, Clements, & Ball, 2007; Reynolds & Shaywitz, 2009; Sugai & Horner, 2009), this research project sought to

analyze the gap only through the lens of school psychologist activities within the behavioral context at the elementary level. This research examined (a) whether school systems defined their school psychologist's activities as mental health (i.e., as a medical model) or as a public health model, (b) the relationship of the school psychologists' preventative activities related to their school's overall behavioral ratings, (c) the predictive nature of school/group ratings versus individual psychologists' ratings, and (d) whether the individual ratings represented the school/group ratings.

Defining the Medical Model and the Public Health Model

History reveals that school psychology's reliance on the medical model for service delivery is not due to a lack of awareness of other service delivery options. At the Thayer Conference in 1954, an edict stipulated that school psychologists should provide services for all children. However, 57 years later, many school psychologists are still spending most of their time testing and placing only students who are referred for special education (Sheridan & Gutkin, 2000).

Although alternative approaches to service delivery such as RtI raise concerns from school psychologists about job security and loss of professional identify (Allison & Upah, 2006), evidence indicated that school psychologists preferred to move away from psycho-educational assessment within the special education process to perform activities that de-emphasized the testing-and-placing approach to practice (Nelson & Macheck, 2007). Still, Reschly and Wilson's (1995) study concluded practicing school psychologists spent 20% of their time engaged with intervention, which was corroborated

by a later study by Hall (2002). Neither study, however, provided information on specific evidence-based activities school psychologists could perform to contribute to a school environment based on prevention. Both studies, however, reinforced the notion that much of the compliance-driven practices performed by school psychologists, specifically deficit-based assessment as part of the special education evaluative process, were reflective of practice guided by a medical model.

Medical Model

The medical model is defined as a sociopolitical model by which illness or disability—being the result of a physical condition that is intrinsic to the individual (i.e., part of that individual's own body)—may reduce the individual's quality of life and cause clear disadvantages to the individual. The medical model tends to rely on the belief that curing or at least managing illness or disability mostly or completely revolves around identifying the illness or disability from an in-depth clinical perspective, understanding it, and learning to control and/or alter its course. Within an educational context, the medical model is used as a way to categorically place students prior to offering services (Costello & Angold, 2000.)

Traditional practice of service delivery by school psychologists for students who need more academic or behavioral support relies on a medical model, applying heavy emphasis on assessing, diagnosing and labeling, and placing students into special education (Sheridan & Gutkin, 2000). In a medical model for service delivery, school psychologists remain relegated to testing and placement activities.

The critical aspect of the medical model is diagnosis informs treatment. Diagnosing a student's suspected pathology becomes the primary reason for a special education referral and also the ultimate goal for conducting an evaluation. The medical model followed the premise that an accurate diagnosis informs treatment (Magg & Katsiyannis, 2008), and in the educational context, this model was historically used to identify students for special education eligibility. Labeling preceded services.

A medical model of service delivery dangerously assumes that deficits lie within the student, is mostly absent of preventative efforts, and uses a one-shot approach to assessment with the primary purpose of diagnosing deficits (Barnett, Daly, & Jones, 2004). Within the medical model, any preventative intervention activities school psychologists perform are secondary to deficit-based assessment.

Compliance-Driven Practice

Two influential reports published prior to the reauthorization of the Individuals With Disabilities Education Improvement Act of 2004 (IDEIA, 2004) severely criticized the current state of special education as it relates to program eligibility, service delivery, and student outcomes (Finn, Rotherham, & Hokanson, 2001; U.S. Department of Education, 2002). A central concern was that special education was too compliance driven (Hassel & Wolff, 2001). Many of the compliance-driven practices performed by school psychologists were reflective of a medical model. For example, students qualified for special education services only if they had been diagnosed with a disability (as defined

by the Individuals with Disabilities Education Act of 1990 [IDEA]) by a physician or other state-certified health care personnel.

Within the current funding structure, test-and-place activities driven by a medical model remain important to school psychologists, schools, and districts due to an inextricable link to IDEIA's child find mandate (Sheridan & Gutkin, 2000). For instance, by state law for Oregon, districts receive twice the basic state school funds for up to 11% of their student populations who are eligible for and receiving special education. With this example, school districts were funded according to their percentage of students identified for special education services, thus incentivizing districts to maintain a special education population of 11%.

Funding aside, test-and-place activities typically culminate in a short meeting to communicate the standardized assessment results to a team of stakeholders and then end with intervention recommendations, and most important, with little empirical support (Sheridan & Gutkin, 2000). The medical model's test-and-place demands on school psychologists, largely borne out of interpretation of federal and state policies by local education agencies, yielded little intervention data. When the primary activity performed by a school psychologist is to test and place students into special education, opportunity for intervention is abated, and the medical model is perpetuated through practice. Hall's (2002) findings indicated that school psychologists were performing activities that were converse to Sheridan and Gutkin's (2000) call for prevention, as most of their time was devoted to test-and-place activities.

The Public Health Model

The first application of a public health model to education was as a small pilot demonstration project that took place between 1957-1963 and was overseen by Cowen, Zax, Izzo, and Tross (1966) when they implemented the Primary Mental Health Project. After identifying students who were having moderate difficulty behaving in school, Cowen et al. (1966) provided intervention to prevent them from developing more serious behavioral problems. Caplan (1964) refined Cowen's initial approach to prevention by introducing tiers of intervention. He defined a theoretical framework for prevention as a three-tiered public health model. He used the terms *primary*, *secondary*, and *tertiary* to categorize the behavioral or health status of the group targeted for intervention. Primary prevention included actions to decrease the number of new cases or incidence of a disorder, secondary prevention involved early identification and efficient treatment to lower the prevalence of established cases, and tertiary prevention emphasized rehabilitation to reduce the severity of disability associated with an existing disorder.

Thirty years later a different theoretical framework was contained in the Institute of Medicine (IMO) report (Mrazek & Haggerty, 1994). Its authors explained prevention as part of an intervention spectrum for mental disorders that also included treatment and maintenance. In this view, the term "prevention" was reserved for programming that occurs before the onset of a diagnosable disorder. They divided preventive interventions into three subcategories: (a) *universal preventive interventions* that target the general public or a whole population group that has not been identified on the basis of individual risk; (b) *selective preventive interventions* that focus on individuals or population

subgroups who have biological, psychological, or social risk factors, placing them at higher than average likelihood of developing a mental disorder; and (c) *indicated preventive interventions* that target high-risk individuals with detectable symptoms (Weisburg, Kumpfer, & Seligman, 2003). This approach, too, is reflective of a public health model because the entire population is available for preventative support and falls within the three subcategories.

A challenge schools face is implementing all three tiers with fidelity due to limited resources (Malecki & Demaray, 2007). Therefore, schools will have to creatively think about how to re-allocate the existing resources. In a public health model of service delivery, school psychologists can participate in designing, implementing, and monitoring interventions within the primary, secondary, and tertiary tiers. Specific activities school psychologists can perform in a public health model of service delivery are detailed in Chapter II.

School psychologists are positioned perfectly in schools to encourage and provide leadership for preventing social challenges within schools in a system known as the public health model. Furthermore, Gresham (2004) proffered that school psychologists possess the knowledge and skill set allowing them to design, implement, and monitor interventions that prevent social and behavioral challenges in schools. A school psychologist's skill set is in perfect alignment with *intervention science*. Policy and research have combined to cause an educational reform movement known as intervention science (Witsken, Stoeckel, & D'Amato, 2008). Intervention science, also known as Response to Intervention (RtI) has become part of the referral and evaluation process.

Policymakers asserted that these goals are achievable through the implementation of an RtI model, which operationalized the tenets of the public health model of prevention. RtI and public health models are typically composed of a minimum of the following components: (a) multiple tiers of intervention and assessment (continuum of evidence-based services available to all students), (b) data-based decision-making, (c) implementation of evidence-based interventions, (d) implementation fidelity and integrity check, and (e) building capacity at the building level for sustaining implementation (Glover & DiPerna, 2007).

It is important to state that the proactive identification and support, or the preventative approach foundational to the implementation of an RtI framework, is also foundational to a public health model and Positive Behavioral Interventions and Supports (PBIS). RtI, PBIS, and a public health model are one and the same for the purposes of this study. Commonalities supporting this claim are further elucidated between RtI, a public health model, and PBIS in Table 1, and are presented in more depth in Chapter II.

TABLE 1. Explicated Similarities of the Public Health Model, RtI, and PBIS

Public Health Model (Cowen, 1957; Caplan, 1964)	Response to Intervention (RtI; Glover & Di Perna, 2007; Gresham, 2004)	Positive Behavioral Interventions and Supports (PBIS; Kratochwill, 2007; Sugai & Horner, 2006)
Theoretical model for prevention for all	Decision Making Framework focused on Prevention for all students	Evidence-based practice for behavior prevention and intervention for all students
A continuum of Tiered Support (Universal, Secondary, and Tertiary)	Data-based decision making to match need to a continuum of tiered support	Adapting and using data to make decisions on the needs of the system, classroom, and individual using a continuum of tiered support
Data gathered helps to accurately prescribe intervention instead of diagnose disorders	Implementation fidelity and integrity Checks	Effectiveness depends on fidelity of implementation

Research showed that positive behavior is related to positive academic achievement, making a preventative approach to addressing challenging behavior even more critical when considering a change to service delivery (Malecki & Elliot, 2002; McIntosh, 2005; Tobin & Sugai, 1999). This begs the question, why do school psychologists continue to primarily operate in a medical model that is so heavily weighted on testing and placing students into special education, and from what model should they operate in order to proactively intervene?

RtI's Framework as a Resemblance of a Public Health Model

RtI serves a heuristic with long-lasting impact on defining preventative activities as they relate to the educational setting, beginning with legislation. The passing of unprecedented legal acts such as the No Child Left Behind (NCLB) Act of 2001 and the 2004 reauthorization of the Individual With Disabilities Education Act (IDEIA, 2004) provide evidence of political backing for a reform shift from accountability based on procedures to accountability based on student performance and outcomes (Glover & DiPerna, 2007; Sheridan & Gutkin, 2000; Sugai & Horner, 2002).

Hoover, Baca, Wexler-Love, and Saenze (2008) surveyed special education directors in each state department (50 states, including the District of Columbia) to gain a national perspective on RtI implementation. Of the 44 state responders, 100% reported that they were either already implementing or were planning to implement some form of RtI. Superintendents, principals, teachers, and other service providers are now left to

define or redefine how their practice fits within this heuristic in order to meet the achievement goals for students who have been targeted by NCLB (2001).

As policy speeds ahead of science in the form of RtI, school psychologists are in a precarious position. To increase their involvement in preventative activities, school psychologists will need to operate under a different model of service delivery, the public health model, and therefore re-prioritize the time they devote to testing-and-placing activities. However, for school psychologist service provisions to evolve, guidance providing detailed and specific preventative activities to perform within a public health model must be clearly articulated. This study is important because it will (a) provide school psychologists with specific preventative activities they can perform within a public health model of service delivery and thus contribute to improving the overall school environment for students, (b) offer suggestions for aligning preventative practices to building systems, and (c) describe steps for using practices to inform local policy.

Educational Service Delivery Models Influenced by Legislative Acts, Shaped by Policy, and Enabled Through Practice

When testing and placing of students precedes intervention, students are implicitly identified as the symptom bearers. Ysseldyke and Christenson (1988) referred to this practice as a quest to identify or name a pathology within a child. Consequently, the supply and demand for students who need testing and placing increase, and activities to build a system of prevention are superseded by regulations that govern the special education process. My study explored the extent to which a preventative approach to

service delivery is used by school psychologists in schools that operate from a public health model. To this end, the next section highlights recent influential legal mandates that have accelerated a shift in service delivery from traditional test-and-place activities, akin to the medical model, to a more contemporary preventative approach to service delivery associated with a public health model.

Equity Through the Medical Model

As early as 1960, Szasz expressed caution regarding the use of the medical model approach in the educational setting. Because the medical model focuses on treating physical conditions, the diagnosis itself does not ascribe treatment (Witsken et al., 2008). Furthermore, there is no empirical evidence to support the effectiveness of a medical approach within an educational milieu (Kavale & Forness, 1999; Kavale & Forness, 1999; Sheridan & Gutkin, 2000). Despite the lack of effectiveness in instructional treatment resulting from this model, educational policy continued to perpetuate its use as an equitable way of determining which students receive special education services.

Dating back to 1975, Congress passed the Education of All Handicapped Children Act, which allocated funds to states that provide a free and appropriate public education (FAPE) to all children with disabilities as defined by the law. This law, subsequent amendments, and civil rights legislation gave further impetus to the growth of special education and special classes. Although this legislation was passed over 30 years ago, the impact it had on the number of students placed in special classes was significant. For example, in 2005, there were 6,021,462 students aged 6 to 21 years who received special

education in the 50 states and District of Columbia, representing 9.15% of the total school-aged population. More than half of students with disabilities spent 21% of their time outside of the general education setting (U.S. Department of Education, 2006). Special educators, including school psychologists, relied on the refer-test-place approach to determine who qualified for special education services (Gresham, 2004), even though there has been little evidence to support the benefits of special education services education (Sheridan & Gutkin, 2000).

The lack of effectiveness of special education coupled with rising costs forced policymakers to reconsider more restrictive placements. Consequently, the National Academy of Science report *Placing Children in Special Education: A Strategy for Equity* (Heller, Holtzman, & Messick, 1982) and several other publications that resulted from a federally funded research project on integration of students with disabilities (Reynolds, Wang, & Walberg, 1987) were important catalysts for the special education reform movement of inclusion. The Education of All Handicapped Children Act of 1975 and the proceeding IDEA of 1990 and the reauthorization of this act in 1997 promoted the value of equity. Although students were now guaranteed the right to have services provided in the least restrictive environment, these acts did not alter the refer-test-place approach, or the use of the medical model.

Inclusion rejects the use of special schools or classrooms to separate students with disabilities from students without disabilities. Placement of students with disabilities while respecting their social, civil, and educational rights became the primary concern. Placement and effective instruction are not synonymous terms. The Least Restrictive

Environment (LRE) and its regulations require schools to offer a continuum of services. The principle of inclusion did not alter or shape service delivery models, and had no impact on decreasing the refer-test-place approach used by special educators (Bradley-Johnson, Johnson, & Jacob-Timm, 1993). Legislative acts centered on equity by holding schools accountable for the appropriate identification and placement of students with special needs, but did not hold them accountable for student achievement.

Quality and Equity Through a Public Health Model

The 2002 President's Commission on Excellence in Special Education for Children and Families wanted education to

> embrace a model of prevention, not a model of failure. The current model guiding special education focuses on waiting for a child to fail, not on early intervention to prevent failure. Reforms must move the system toward early identification and swift intervention. (p. 9)

The 2004 reauthorization of the Individual with Disabilities Education Act (IDEIA, 2004) provided evidence of political backing for a reform shift from accountability based on procedures to accountability based on student performance and outcomes. This initiative emphasizes prevention and intervention with two primary goals: increase student achievement and reduce the number of students misidentified as having special education disabilities. Legislation asserted that these goals are achievable through the implementation of a Response to Intervention (RtI) model, which resembles a public health model of prevention.

The following chapter expands on the interconnectedness of principles within three frameworks: RtI, public health model, and PBIS. The goal of Chapter II is to present

literature that demonstrates how each framework has shared elements to the point of interdependency. By the concluding paragraph of Chapter II, it should be apparent that RtI, PBIS, and a public health model are one and the same.

CHAPTER II

LITERATURE REVIEW OF PBIS, RTI, AND SCHOOL PSYCHOLOGY SERVICE PROVISIONS

Sheridan and Gutkin (2000) posited that an ecological system is largely ignored as a potential cause of or influence on a student's academic or behavioral challenges. Although Gresham (2004) did not go as far as Sheridan and Gutkin (2000) to overtly discredit the merits of a medical model used within the school environment, he shared their views regarding the influence of environmental factors on student performance. Gresham (2004) referred to social learning theory to highlight the importance of the environment and the individual, specifically about what individuals can expect from their environment in terms of incentives and consequences for exhibited behavior. This exchange or interplay between the student and the environment is based on the notion of *reciprocal determinism.* This line of thought introduces another variable, the school as a predictable environment, which is a viable factor and predictor for a student's success. The degree with which there is accord between the child and the environment becomes a focus for determining the course of intervention. The problem is not within the child, but with the system.

Sugai and Horner (2002) offered the perspective of focusing on the whole school as the unit of analysis for positive behavior support, or in other words analyzing the school as a system. They recognized the importance of proactively arranging to the school environment for the implementation of evidence-based practices to address the behavioral

needs of all students in schools. This shift in thinking and in practice used data to determine the ineffectiveness of the system. The system is culpable for not delivering what a student needs, which directly contradicts the medical model. This evolution of thought and practice has led to the evidence-based practice known as Positive Behavioral Interventions and Supports (PBIS), which is based on the public health model of prevention and intervention. Highlighted in this chapter are the shared principles between RtI, PBIS, and the public health model, which provide evidence of an explicit and inextricable link between them. These similarities served as a framework within which preventative school psychological services were operationally defined for this study.

Principles of PBIS

PBIS is a systematic approach schools use to provide individual behavior supports for students in an effort to prevent problem behavior within a school's social culture to ultimately increase the likelihood of social and academic success. Sugai and Horner (2006) summarized PBIS by stating, " PBIS is the integration of valued outcomes, behavioral and science, empirically validated procedures, and systems change to enhance the quality of life and minimize or prevent problem behaviors" (p. 246). As described in the next section, PBIS is defined by seven core principles: (a) prevention; (b) acknowledgment (reward) of positive behavior; (c) defining and teaching positive social expectations; (d) arranging consistent consequences for problem behavior; (e) ongoing collection and use of data for decision-making; (f) an established continuum of intensive, individual interventions; and (f) leadership that supports effective practices

(Sailor, Dunlap, Sugai, & Horner, 2009). The success of PBIS depends on the application of these principles to the whole-school context. Success was defined as "an effort to prevent, as well as change patterns of behavior" (Horner, Sugai, Todd, & Lewis-Palmer, 2005, p. 360). The School-Wide Evaluation Tool (SET) is used to measure the overall application of these principles or implementation effectiveness of PBIS. In my study, extant SET data were used to analyze the relationship between effective PBIS implementation and preventative activities performed by school psychologists in elementary schools.

Prevention Model

PBIS is a school-based prevention model consisting of three layers or tiers of interventions, which form a continuum of behavior support (see Figure 1; Sugai & Horner, 2006). The intensity of the intervention matches the intensity of the support needed to eliminate the undesired behavior exhibited by the student. Figure 1 illustrates the preventative aspect of PBIS, as every student is accounted for in the behavioral support system. One critical feature is the ability of all students to communicate examples of the behavioral expectations for specific, predictable school settings (Sugai, Flannery, & Bohanon-Edmonson, 2004). With a systematic-tiered approach, trained staff are able to implement evidence-based interventions to prevent the development of low-level problem behaviors, reduce behaviors considered as more significant, and create a safe, positive, and predictable learning environment (Sugai & Horner, 2002).

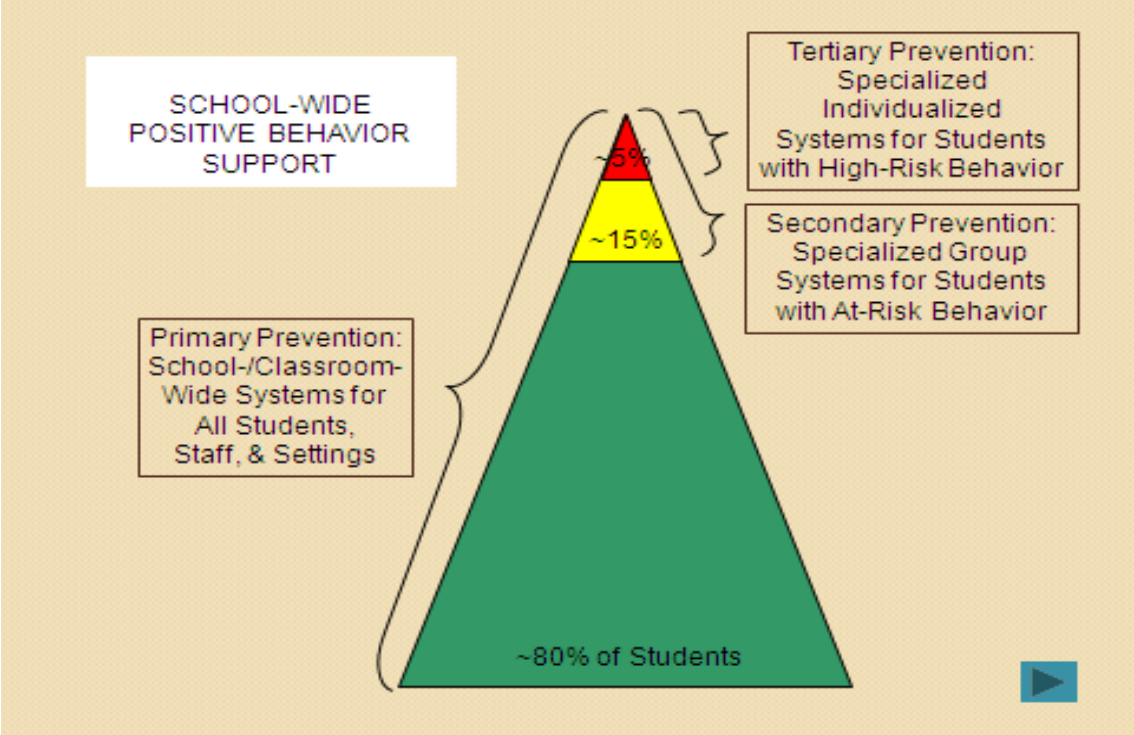

FIGURE 1. Continuum of school-wide instructional and Positive Behavioral Interventions and Supports (PBIS, 2007).

Primary Prevention

In Figure 1, the base of the triangle represents preventative support that is universal, or provided for all students. The focus of primary prevention is to teach appropriate behaviors across all contexts, including common areas such as the playground, cafeteria, etc., as well as the classroom. Students are provided with constant reinforcement for exhibiting expected and appropriate behaviors, and also receive consequences if they exhibit inappropriate behaviors. In addition to explicitly teaching students the rewards and consequences for their behavior, school-wide prevention also includes instructional practices, relevant curriculum, and organizational structures that cultivate positive relationships between adults and students (Sugai & Horner, 2006). As

shown in Figure 1, primary prevention is the base of the triangle and, theoretically, provides the support appropriate to meet the needs of 80% of the student population.

Secondary Prevention

Approximately 15% of the student population will need more intervention than what is provided universally. Secondary prevention, or targeted intervention, is a group-based intervention strategy designed for academic, personal, and social support. An example of secondary prevention is Check-in, Check-out. This intervention provides 15% of the student population with an adult mentor who conducts regularly scheduled status checks to increase the amount of positive adult attention a student receives, and to assist the student in the attainment of academic and behavioral goals. A key to secondary prevention is that students and adults are able to share more interactions, thus shaping a positive learning environment (Sugai et al., 2004). These supports are provided in addition to the primary prevention efforts and are considered as an increased level of prevention. Students do not require eligibility or labels to receive these services or the tertiary preventative support.

Tertiary Prevention

The tertiary level, or the apex of the triangle (see Figure 1), is the most intensive phase of the continuum, and it involves only 5% of the student population. This level of prevention is reserved for students who are not responsive to primary and secondary intervention supports. Intervention during this phase is highly individualized and

regularly monitored through predetermined data-collection points, and typically involves a team of experts (e.g., school psychologists, counselors, special education teachers, principal, etc.). The goal of the team is to decrease the student's antisocial behavior and teach alternate behaviors that are socially acceptable, but still meet the function of the student's behavior (Sugai & Horner, 2006).

Theory and Evidence-Based Practices

PBIS is based on behavioral theory. Problem behavior exists because it is consistently preceded by an individual getting something perceived as positive or escaping something perceived as negative. To alter this pattern, PBIS increases the capacity of adults to "affect behavior through environmental manipulations" (Sugai & Horner, 2006, p. 247). Focusing on the contexts and outcomes of the behavior makes it possible to identify the function of the behavior, make the problem behavior less effective, and make the desired behavior more functional.

However, to isolate the problem behavior within a specific context, empirical evidence to guide a team's decision-making is foundational to successful implementation of PBIS (Sugai & Horner, 2006). A critical aspect of the decision-making process is the use of data through the application of data-collection systems to inform a team's decision-making process regarding effective, adaptable, and sustainable intervention practices (Sugai et al., 2004). This often involves changing systems, altering environments, and teaching new skills, as well as focusing on the problem behavior.

Features of applied behavioral analysis include analysis of the purpose or function of the behavior (Sugai & Horner, 2006).

Systems Implementation

With a foundation of theory and evidence, PBIS has "evolved into a viable process for assisting schools to identify, adopt, adapt, implement, and evaluate evidence-based school-wide, classroom, and individual student interventions" (Sugai et al. 2004, p. 2). Sugai and Horner (2006) believed that PBIS included four major elements: (a) measurable long-term goals, (b) school-based outcomes, (c) use of data, and (d) system supports. Systems Implementation is illustrated in Figure 2.

Measurable Long-Term Goals

It is essential for the school community to determine which key practices and processes are in place or need to be improved. This valuable information is used in conjunction with an analysis of school discipline data to develop an action plan, which includes long-term goals that are achieved by reinforcing nondisruptive student behavior and systematically correcting disruptive student behavior by using preventative efforts. Efforts are reviewed and revised throughout this process to meet long-term goals to reduce target behaviors (Sugai & Horner, 2002).

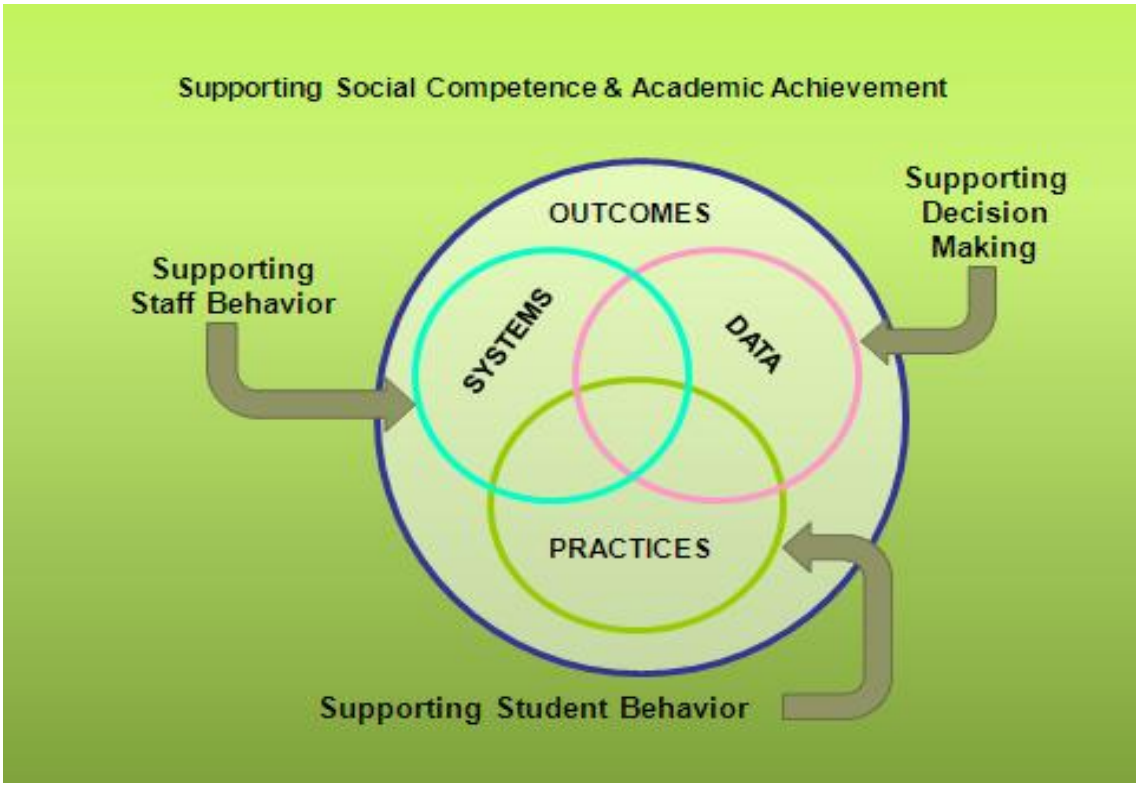

FIGURE 2. Four PBIS elements (Positive Interventions and Behavioral Supports, 2007).

School-Based Outcomes

Practices to achieve school-based outcomes must be relevant to the population and applicable to the educational setting (Sugai & Horner, 2002). More simply stated, expected outcomes must be age-appropriate. Elementary school students might have difficulty understanding how to demonstrate perseverance inside and outside their classrooms. However, the same student population would understand how to demonstrate simple forms of respect such as a morning greeting. The learning environment should match the developmental stage and interests of the students (Sugai & Horner, 2002).

Use of Data

In order to evaluate adequate progress, data systems must be in place. Sugai and Horner (2002) posited that developing an organizational system to collect, analyze, and communicate data is critical to inform the decision-making process at all levels of systematic implementation. School-level data used to guide the decision-making process include sources such as standardized test scores, attendance records, and grades. Examples of classroom-level data include curriculum-based assessment and discipline referrals. Lastly, individual data such as discipline referrals and progress-monitoring data included in behavior intervention plans help staff adjust interventions to meet the needs of the student. All levels of data should be collected by staff for a clearly stated purpose; otherwise, data-based decision-making is not sustainable (Sugai & Horner, 2006).

System Supports

Lastly, aspects of facilitative administration are critical in establishing and aligning systems supports for effective PBIS implementation. Facilitative administration is achieved when barriers to effective implementation of any initiative are minimized or eliminated. For example, training, resource allocation, and funding are aligned to meet the long-term goals established by the community. Data are fed forward to ensure supports are in place to apply PBIS practices with fidelity (Sugai & Horner, 2002). In summary, Figure 2 provides an illustrated perspective on the overlapping nature of systems and how data is used to achieve predetermined outcomes, and to influence adult and student behavior (Sugai & Horner, 2006).

Principles of RtI

The primary benefit of a Response-to-Intervention model is the utilization of intervention and instruction to match the behavioral or academic needs of students. As per Gresham (2004), service delivery for RtI is based on three decades or more of advancements in behavioral consultation (see, e.g., Bergan, 1977; Bergan & Kratochwill, 1990), data-based problem modification (e.g., Deno, 1985; Deno & Mirkin, 1977), curriculum-based measurement (e.g., Deno, 1985; Shinn, 2007), protocol development for evidence-based instruction and intervention (Torgesen et al., 2001; Vaughn, Linan-Thompson, & Hickman, 2003; Velluntino et al., 1996), and functional behavior assessment and analysis (Gresham, 1991). Although there has been much research from which to build, there has also been much debate about the costs and benefits of RtI implementation.

However, this section focuses on the following five core service delivery components common to implementation for both behavior and academic RtI: (a) multiple tiers of intervention and assessment (continuum of evidence-based services available to all students), (b) data-based decision-making; (c) implementation of evidence-based interventions, (d) implementation fidelity and integrity check, and (e) building capacity at the building level for sustaining implementation (Glover & DiPerna, 2007).

Multiple Tiers of RtI Intervention and Assessment

Similar to PBIS and a public health model, RtI also applies a tiered framework of prevention and intervention (see, e.g., Batsche et al. 2005; Sugai & Horner, 2006). Because RtI, too, focuses on all students, services are provided along a continuum. Often, these tiers are known as primary, secondary, and tertiary prevention and interventions supports. Gresham (2004) posited, "Primary prevention efforts seek to prevent harm whereas secondary prevention efforts seek to reverse harm. Tertiary prevention efforts target the most academically and/or behaviorally challenged children and youth and attempt to reduce harm" (p. 329). As stated previously, the tiered support within an RtI model is a reification of a public health model of prevention science. See Figure 3 for a visual representation of the shared properties between RtI and the public health model of prevention science as described in the work of Costello and Angold (2000).

Universal or Primary Prevention and Intervention Efforts

Primary prevention efforts are designed to target all students and are implemented consistently class-wide, school-wide, or district-wide at the same level of intensity and at the same times. These efforts aim to achieve two major goals within a school: academic and social development of students. It is estimated that primary prevention efforts will be effective with approximately 80-90% of any given school population (Colvin, Kame'enui, & Sugai, 1993; Sugai & Horner, 2002; Taylor-Green et al., 1997).

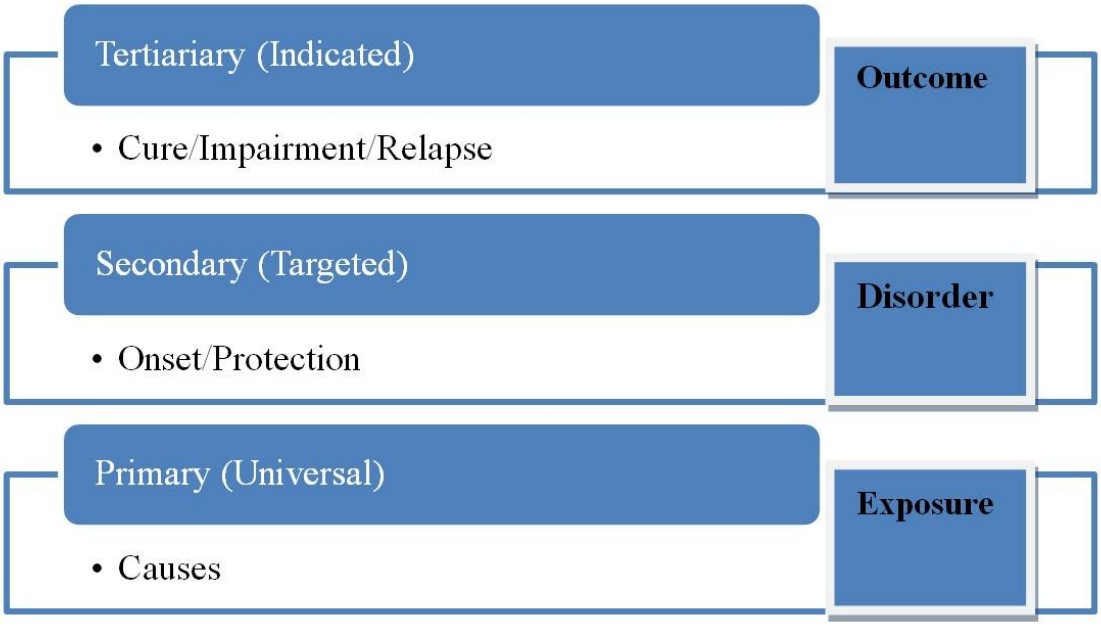

FIGURE 3. Depiction of the public health model of prevention science as described by Costello and Angold (2000). Adapted from "Intervention Selection in School-Based Practice: Using Public Health Models to Enhance Systems Capacity of Schools," by Merrell & Buchanan, 2006, *School Psychology Review*, *35*(2), p. 172.

Secondary or Targeted Prevention Efforts

An additional layer of prevention is necessary for those students who do not respond to what is offered in Tier 1 or primary prevention. Gresham (2004) contended,

> The goal of selected interventions is to manipulate antecedent and consequent events that might set the occasion for problem behaviors to occur and to provide students with effective academic and social-behavioral repertoires that will make them more responsive to universal interventions. (p. 330)

Targeted prevention efforts are typically group-based and are designed for 5-10% of the student population (Sugai & Horner, 2002).

Tertiary Prevention Supports

Lastly, for the 1-5% of the student population who are unresponsive to both the universal and secondary prevention efforts, the most intensive of prevention efforts is applied. These interventions are individually designed with the goal of decreasing the frequency and intensity of problem behaviors and to reinforce positive replacement behaviors (Sugai & Horner, 2002). Often functional behavior assessments are used to identify the function of the student's behavior. This student population consume about 50-60% of building and classroom resources (Colvin et al., 1993; Sugai & Horner, 2002).

The intensity of intervention from tier to tier is another integral structural component and perhaps the most important concept to the implementation of an RtI framework (Gresham, 2004). The degree of unresponsiveness demonstrated by the student and the intensity of the intervention are codependent. The intervention design should match the intensity of the need. A discrepancy is present when the current level of performance is below the expected level of performance (Upah & Tilly, 2002), and a more intensive course of intervention should be applied. The responsiveness to the intervention is measured regardless of the intensity or tier in which the intervention is embedded. These data guide the team's future decision-making to match the student to an appropriate intervention (Gresham, 2004). All tiers are preventative because support is provided without labeling students.

Science, Causal Research

Student Assessment and Data-Based Decision-Making

Data-based decision-making is related to preventative practice because the entire population is continuously monitored to ensure students are matched to the appropriate intensity level of supports (Glover & DiPerna, 2007). Data serve as the basis for maintaining, modifying, intensifying, or withdrawing the intervention supports (Gresham, 2004). A comprehensive assessment system within an RtI framework includes three components: universal screening, diagnostics, and progress monitoring. Universal screening is a quick assessment that is used to categorize a student's risk level (Shinn, 2007) and a way to establish baseline data to compare the effect of intervention support (Severson & Walker, 2002). Diagnostic assessment is administered to determine the initial course of intervention for those students who need secondary or targeted support, and to provide information for staff to predict future student behavior or academic performance (Albers, Glover, & Kratochwill, 2007). Lastly, progress monitoring is conducted to evaluate the effectiveness of the intervention (Deno, 1985).

A common challenge for schools that attempt to implement an RtI framework is choosing measures that meet the following requirements: (a) measures are valid and reliable data that demonstrate growth over multiple periods of time, (b) measures have the ability to inform behavioral or instructional decisions, (c) measures are sensitive in detecting effects of interventions, and (d) treatment protocols are available in concert with

implementation of evidence-based practices (Burchinal, Bailey, & Snyder, 1994; Fuchs & Fuchs, 1998; Gresham, 2002).

Implementation of Evidenced Based Interventions

A key component to effective implementation of RtI is selecting evidence-based interventions that fit the educational context. For optimal benefit, students must receive services within an RtI framework, and those services must be backed by rigorous empirical evidence (Glover & DiPerna, 2007). Furthermore, Gresham (2002) contended that implementation of evidence-based interventions in the general education setting can significantly decrease the voluminous false positive identification rate (e.g., learning disabilities) in the field. Evidence-based interventions must be selected for each tier within an RtI framework (Vaughn & Fuchs, 2003), and these interventions must also be implemented with fidelity in order to maximize student success.

Implementation Fidelity and Integrity Check

According to the National Implementation Research Network (2012), implementation is defined as "a specified set of activities designed to put into practice an activity or program." Lack of implementation fidelity can discredit or invalidate the decision-making process when it comes to supporting students within an RtI framework (Noell & Gansle, 2006). In other words, lack of implementation fidelity could be the primary reason a student is not responding to an intervention; however, staff might instead move to evaluate this student for special education eligibility due to lack of

awareness or action to address implementation challenges. To address such challenges, "educators must be able to (a) identify feasible practices with evidence of effectiveness for assisting students served at specific levels within the system, and (b) monitor the implementation of applied interventions for adherence to empirically tested protocols" (Glover & DiPerna, 2007, p. 532). Although maintaining procedural integrity can be difficult, extant literature on integrity related to consultation and teacher implementation identified training and support as primary factors in sustaining successful implementation efforts (Elliott & DiPerna, 2001).

Building Capacity and Sustaining Implementation

An assumption of any intervention attempt is that it will be delivered as designed and intended. Adjustments or modifications of intervention plans that stray from protocol are too often deserving of blame for why interventions are less effective than they could be (Noell & Witt, 1999). Implementation research suggested that integrity of many treatments is either not monitored or not systematically assessed (Gresham, 2002).

Sugai and Horner (2006) suggested that schools form leadership teams to coordinate local coaching, training, evaluation of practices, and to establish sustainable political, visibility, and funding supports. These teams are comprised of various stakeholders (e.g., special educators, general education teachers, principals, school psychologists, counselors, community members) who engage in action planning to guide the systematic implementation of evidence-based practices. The ultimate goal of this team

is to build local expertise and competence among staff members while sustaining a high level of implementation (Gilbert & Gilbert, 1992; Goltz, 2003).

RtI and PBIS Share Similar Properties Reflective of a Public Health Model

RtI legislation has caused an educational reform. Activities performed by all educators across the nation place more emphasis on prevention, including those activities performed by school psychologists. Considering this substantial research base, legislation involved in passing the Individuals With Disabilities Education Act (IDEA) of 1997 recommended PBIS as the form of intervention for dealing with students who have challenging behavior. Since 2005, the U.S. Department of Education's Office of Special Education Programs (OSEP) has invested in technical assistance to states and districts choosing to implement PBIS. Over 2,900 schools across 34 states are now implementing or in the process of adopting SW-PBIS (Horner, Sugai, & Vincent, 2005). These endorsements and investments signify a shift to prevention in educational settings consistent with a public health model of service delivery and operationalized through an RtI framework, and also acknowledge PBIS as a viable option for districts to choose when seeking an evidence-based practice.

RtI and PBIS rely on universal screener data to prevent all students from not meeting academic and social grade-level expectations. The instrument used as the screener can vary, but the purpose is to assess all students and categorize them by risk level. The risk level of a student allows a team to match the student to the appropriate tier of social or academic support. As seen in Table 1, this commonality is shared by RtI,

PBIS, and the public health model. Students are progress-monitored to determine the effectiveness of intervention. In all systems or frameworks—RtI, PBIS, and the public health model—data gathering is continuously used to define the intensity of intervention within a multitiered system of supports.

RtI is a decision-making model with flexibility around curriculum materials and intervention materials in comparison to PBIS, which is an evidence-based practice with specific guidelines and materials. As PBIS is considered an evidenced practice, its effectiveness depends on the fidelity of implementation (Sugai, Guardino, & Lathrop, 2007).

Of particular interest in this study are those activities performed by school psychologists that fall within prevention and intervention models of service delivery, specifically activities school psychologists perform to increase effective implementation of Positive Behavioral Interventions and Supports (PBIS).

School Psychology and PBIS

In February 2010**,** the National Association of School Psychologists (NASP) released a revised model for Comprehensive and Integrated School Psychological Services in an effort to provide guidance for graduate education programs and service delivery for school psychologists within the school setting. NASP (2010) emphasized data-based decision-making, and consultation and collaboration as two foundational aspects for school psychological service provisions, which are also foundational aspects of PBIS.

Activities school psychologists can perform to impact the implementation of PBIS include progress monitoring and problem solving, assessment and intervention design, staff training, and adapting and using data to make decisions (Gresham, 2004; Horner, Sugai, Todd, & Lewis-Palmer, 2005; Kratochwill et al., 2007; Sugai & Horner, 2006). These activities were used in this study to develop items for the School Psychologist Survey that estimated the prioritization school psychologists place on activities related to prevention versus testing and placing. My study analyzed the predictive nature of the School Psychologist Survey in relation to the SET-General Index and the SET-Behavior Expectations Index, or overall measure for PBIS implementation effectiveness.

Progress Monitoring and Problem Solving

A foundational component of PBIS is continuously using data to determine the effectiveness of universal supports, secondary, and tertiary interventions. NASP (2010) contended that school psychologists "use systematic and valid data collection procedures for evaluating the effectiveness or need for modification of school based intervention programs" (p. 4). School psychologists are trained to facilitate multidisciplinary team meetings, and to interpret data using a problem-solving framework to guide their professional activities (NASP, 2010). These skills have the potential to overlap into teaming exercises within PBIS, as school psychologists are trained at guiding teams through the data-based decision-making process.

As stated previously, Sugai and Horner (2006) suggested that schools form leadership teams to develop action plans to guide the systematic implementation of

evidence-based practices. NASP (2010) opined that school psychologists are effective communicators to diverse audiences, including those stakeholders (e.g., community leaders, parents, teachers) who might participate as members of a PBIS leadership team. Therefore, it is reasonable that school psychologists serve on PBIS leadership teams, given NASP (2010) recommendations.

Assessment and Intervention Design

Assessment and intervention design domain is specific to a school psychologist's role as it relates to PBIS. School psychologists conduct many standardized assessments as part of eligibility meetings, but in a PBIS role, these assessments and interventions are used in a proactive manner. School psychologists typically use data as a one-time measure to determine special education eligibility status and placement of a student during meetings related to the special education process (Ehrhardt-Padget, Hatzichristou, Kitson, & Myers, 2004). PBIS encourages continual monitoring and use of data to determine the course of intervention for all students (Sugai & Horner, 2006).

A student's lack of success on a single assessment is translated to a mismatched intervention for that student and not proof that a student needs an evaluation for special education. NASP (2010) envisioned school psychologists as data collectors who use multiple sources to build a foundation for decision-making with consideration for ecological factors (e.g., classroom, family, community) as a context for assessment and intervention in the general education and special education settings.

Data yielded from multiple and continuous assessments help personnel prescribe interventions to match the context, which is a stark contrast from using data to diagnose problems that define the methodology used within a medical model. PBIS uses data to develop and implement interventions within five systems: (a) school-wide, (b) classroom, (c) nonclassroom, (d) family, and (e) the individual student.

NASP (2010) acknowledged that school psychologists have a variety of strategies to promote effective implementation of services, but emphasized the importance of a school psychological consultation and collaboration across the aforementioned systems delineated by PBIS. Interventions can be shaped effectively by evaluation of both the process and the outcome of interventions, including data on treatment acceptability and treatment integrity (Meyers & Nastasi, 1999), which is a key feature of RtI, or a public health model of service delivery.

Staff Training, Adapting and Using Data to Make Decisions

One of the most challenging tasks for school psychologists is influencing behavior and attitude change among building staff. Sheridan and Gutkin (2000) stated,

> It is crucial that school psychologists actively expand both their research and practice to address behavior change with those who implement school psychological programs (e.g., teachers) rather than limit our focus to those who are the recipients of these interventions (i.e., students). (p. 491)

This statement coincided with Sugai and Horner's (2006) recommendation regarding effective training of adults to build capacity and system sustainability.

For the purposes of this study, this domain is specific to the functional behavior assessment (FBA) process as it relates to PBIS. School psychologists are the likely

personnel to assist staff in training, coaching, implementing, and evaluating an FBA process within a larger behavioral system (Sugai & Horner, 2006). An FBA is an investigative procedure for the purpose of gathering information to determine the function of a student's behavior.

Anytime staff express concerns about the behavior of a student with a disability, they are required by IDEIA (2004) to undertake the functional behavior assessment process in order to determine why a student is not having success within a context or setting. By determining the purpose of the behavior, educational personnel can then devise interventions to help the student display more acceptable behaviors that will meet his or her needs or desires.

Although students who require a comprehensive FBA represent only 1% to 5% of the student population, often they can account for more than 50% of behavioral referrals (Sugai, Sprague, Horner, & Walker, 2000; Taylor-Greene et al., 1997). Many of these students require comprehensive behavioral supports that are intensive and require multiple stakeholders, including family, school, and community participation in their "host environments" (Eber, Sugai, Smith, & Scott, 2002, p. 172). Nastasi, Varjas, Sarkar, and Jayasena (1998) stated, "to enlist the assistance of stakeholders, school psychologists should avoid presenting interventions to them for acceptance, and instead, develop interventions through dialogue with them" (p. 165).

Time as a Proxy for Understanding Prioritization of Service Provisions

In 2002, a total of 370 school psychologists, all members of the National Association of School Psychologists (NASP), completed a survey designed to assess their roles and to estimate the amount of time they devoted within each role. Results indicated that those school psychologists who completed the survey estimated 13% of their time was devoted to intervention, and 46% of their time to assessment (Hall, 2002). Results from this survey were consistent with Reschly and Wilson's (1995) study, which concluded practicing school psychologists spent 20% of their time engaged with intervention.

Additionally, these studies established that school psychologists are limited in the amount of time they spend on intervention, but they did not indicate the amount of time school psychologists need to spend in order to proactively improve the educational environment. The current study will build from the findings of Hall (2002) and Reschly and Wilson (1995) by introducing the dependent variable of frequency as a proxy for the prioritization of activities performed by school psychologists and for defining the service delivery models under which these activities fall.

Sheridan and Gutkin (2000) advocated for the reduction of time in identifying and measuring problems, and increased involvement in prevention and promotion of wellness for the 21st century. However, Hall's (2002) findings indicate that school psychologists predominantly performed activities within a medical model, as most of their time was devoted to test-and-place activities. To increase their involvement in preventative activities, school psychologists should operate under a different model of service

delivery, the public health model. To this end, there are three variables with scant empirical data: specific activities school psychologists perform related to prevention, the amount of time school psychologists dedicate to performing preventative activities, and the impact school psychologists have on elementary schools that implement PBIS. Further exploration of these variables was warranted to provide guidance for service delivery, and to help school psychologists conceptualize their role in the implementation of evidence-based practices.

Consequently, of interest in this current study is how school psychologists prioritize the activities performed within elementary schools implementing Positive Behavioral Interventions and Supports (PBIS), with PBIS serving as a reflection of a public health model. The following research questions are addressed in this study:

1. Do the school systems define their school psychologist's activities as a public health model or medical model?

2. What is the relationship of the preventative activities performed by school psychologists (as defined by the School Psychologist Survey) related to their schools' SET-General Index and SET-Behavior Expectations Index outcomes of PBIS implementation?

3. What is the relative predictive nature of the SET-General Index and the SET-Behavior Expectations Index in relation to the School Psychologist Survey?

4. Does the School Psychologist Survey visually represent the 80/80 outcomes of the SET-General Index and the SET-Behavior Expectations Index scores?

CHAPTER III

METHODOLOGY

In my research, specific activities performed by school psychologists were examined along with the impact these activities had on effective implementation of PBIS within the elementary school setting. Included in this section is a description of the setting, the population, and sample drawn from this population for this study. Next, an explanation of the elementary schools in this study's sample is provided, along with a closer look at the subgroups within these elementary schools. Lastly, the measures and operational procedures that were used in my study are presented.

Research Design

A descriptive nonexperimental design was used to analyze the relationship between (a) elementary schools that are effectively implementing PBIS and (b) the preventative activities performed by school psychologists within these schools. The sampling frame was the implementation of school-wide behavioral systems (a public health model service delivery) at each school, which was PBIS. The dependent variable was the level of implementation of a public health model measured by both the SET and the School Psychologist Survey. The School Psychologist Survey captured the amount of time school psychologists estimated they devoted to public health model service delivery activities from September 2011 to January 2012. The School Psychologist Survey included items that were reflective of both the public health (PBIS-related activities) and

medical (test-and-place activities for the purpose of special education identification) models of service delivery.

Setting and Participants

All data were collected from 41 elementary schools in five public school districts located in the northwest corner of the state of Oregon. All districts are within Multnomah County. These five school districts served a combined total of 44,066 students, which is approximately 8% of students in the state of Oregon. See Figure 4 for a visual representation of the student population in Oregon, and the number of students served by the districts who participated in this study. Table 2 provides the study population by district.

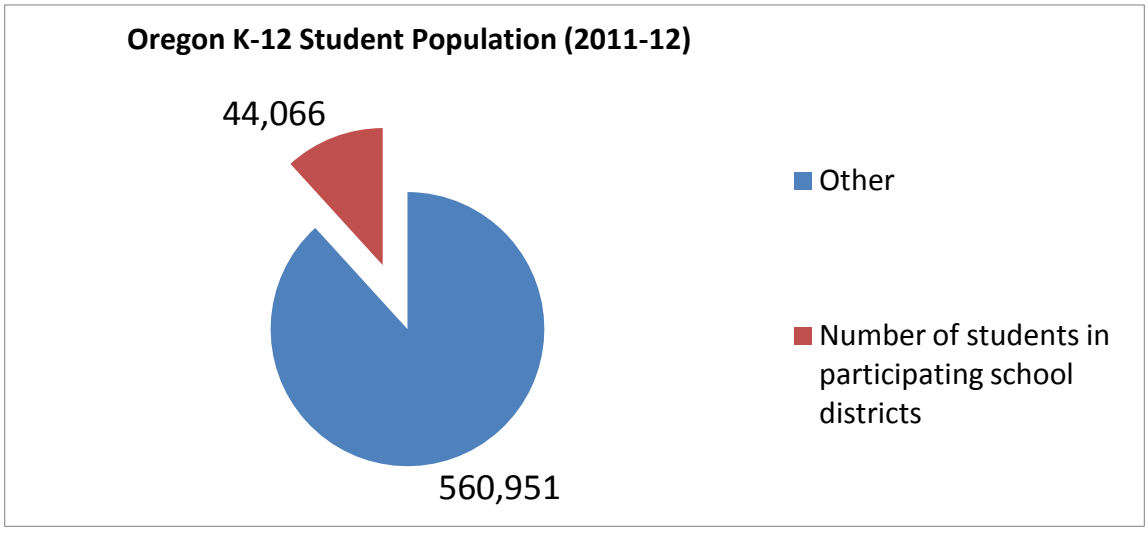

FIGURE 4. Oregon K-12 student population.

TABLE 2. District Student Population, 2011-2012

School District	Students
SD 1	6,427
SD 2	11,302
SD 3	10,756
SD 4	3,435
SD 5	12,146
Average	8,813.2

NCLB (2001) Factors

NCLB (2001) focused on improved achievement for all students, including subgroups for (a) race/ethnicity, (b) socioeconomic status, (c) English language learners, and (d) students with disabilities. NCLB (2001) required that the performance of all student groups be disaggregated, reported and factored into Adequate Yearly Progress (AYP) results. As stated in Chapter I, NCLB (2001) has had a lasting impact on service delivery and practice; therefore, it is important for the reader to have an understanding of the subgroups served by each school district and within each elementary school that participated in this study.

Race/Ethnicity

Race and Ethnicity by District

Across Oregon, the number of minority students, in general, and Hispanic students in particular, substantially increased. Statewide, there has been a 64.4% increase in the total number of minority students and a 113.1% increase in Hispanic students from

1999 to 2010. The Hispanic population was the greatest minority percentage across the five school districts with an average of 26.2%, which was slightly higher than the state-wide Hispanic student population of 21%. See Table 3 for complete race and ethnicity information by district.

TABLE 3. District Race and Ethnicity Percentages, 2011-2012

School District	White	Black	Hispanic	Asian/Pac Island	Amer/Alaskan Native	Multi-Ethnic	Total Minority
SD 1	52.3	4.9	24.0	12.8	1.0	5.1	47.7
SD 2	42.1	7.2	36.8	8.4	.9	4.7	57.9
SD 3	45.5	9.4	24.1	15.1	.8	5.1	54.5
SD 4	36.3	12.3	24.8	18.7	1.0	7.0	63.8
SD 5	64.9	2.4	23.9	2.8	1.1	4.9	35.1

For the five school districts that participated in my study, the district's minority population ranged from a minimum of 35.1% to a maximum of 63.8% with an average minority population of 51.8%. Again, the average minority population in these five districts was slightly higher than the total minority population for the state of Oregon, which was 34.7%.

Race and Ethnicity by Elementary School

For the 41 elementary schools located within the five school districts that participated in my study, the total minority population ranged from a minimum of 12.4% at Elementary School 32 to a maximum of 85.3% at Elementary School 30 with an average total minority population of 53.7%. The state average for the total minority population was 34.7%, which was substantially lower than the average for elementary

schools that participated in this study. The largest minority population was Hispanic in Elementary School 9 at 60.4%. Elementary School 32 had the lowest Hispanic percentage at 8.2%. In comparison to the state Hispanic population of 21%, the percentage at Elementary School 9 was substantively higher, while the percentage at Elementary School 32 was much lower. See Appendix A for more detailed race and ethnicity information for all 41 elementary schools.

Free and Reduced Meals (FARMS)

Free and Reduced Meals (FARMS) by District

For my study, FARMS served as a proxy for socioeconomic status. While the FARMS program is typically used as a substitute for socioeconomic status because of ease of accessibility, it is understood that, according to some, the FARMS "variable possesses several important deficiencies" (Harwell & LeBeau, 2010, p. 128). The National School Lunch Program provides low-cost or free meals to students, based on the student's family size and income. Children from families with incomes at or below 130% of the poverty level are eligible for Free and Reduced Meals (FARMs). Those with incomes between 130% and 185% of the poverty level are eligible for reduced-price meals. In Oregon, 46.7% of students were eligible for free and reduced lunch In 2010 (Indicators Northwest, 2012). The state-wide FARMS percentage, 46.7%, was markedly lower than my study's overall average of 66.8%, which represented all five districts of FARMs-receiving students who participated in this study. Overall, among the five school districts participating in this study, the number of students receiving free and reduced

lunches ranged from 44.5% in SD 5 to 78.2% in SD 3. See Table 4 for more detailed district FARMS information.

TABLE 4. District Free and Reduce Meals (FARMs) Data, 2010-2011

School District	Students	FARMs %
SD 1	6,427	64.6
SD 2	11,302	71.6
SD 3	10,756	78.2
SD 4	3,435	75.0
SD 5	12,146	44.5
Average	8,813.2	66.78

Free and Reduced Meals (FARMS) by Elementary School

Overall, among the 41 elementary schools participating in this study, the number of students receiving free and reduced meals ranged from 24% in Elementary School 34 to 94.3% in Elementary School 8. See Appendix B for more detailed FARMs information for all 41 elementary schools. The overall average of students receiving free and reduced meals across all 41 schools was 70.62%, which was considerably higher than the state average.

English Language Learners (ELL)

English Language Learners (ELL) by District

In 2001, a total of 44,000 Oregon students were enrolled in English language Development programs. Last year, it was 65,618, which was a 49% increase. In 2011, the

total population of ELL in Oregon was 11.5% (Oregon Department of Education [ODE], 2012). For the five school districts that participated in my study, the ELL percentage ranged from a minimum of 10.9% to a maximum of 24.2% with an average of 19.46%. Similar to the FARMs student population, the ELL student population for the five districts participating in this study was appreciably larger in comparison to the state average. See Table 5 for the ELL student population by district.

TABLE 5. District English Language Learner (ELL) Data, 2010-2011

School District	Students	ELL%
SD 1	6,427	19.2
SD 2	11,302	24.2
SD 3	10,756	21.8
SD 4	3,435	21.2
SD 5	12,146	10.9
Average	8,813.2	19.5

English Language Learner (ELL) by Elementary School

Among the 41 elementary schools that participated in my study, the ELL percentage ranged from a minimum of 6.6% at Elementary School 34 to a maximum of 63.4% at Elementary School 8 with an average across all 41 elementary schools of 28.9%. See Appendix B for detailed data on the ELL population by elementary school. Similar to the FARMs student population, the percentage of ELL students who participated in this study, 11.5% across all 41 elementary schools, was considerably higher than the state average. In summary, the elementary schools that participated in this study on average

served a significantly higher number of minority students and students who qualified for FARMS.

Special Education

Special Education by District

According to the special education census numbers released by ODE for the 2011-2012 school year, there were 84,707 students who had special education school-aged eligibilities statewide, representing 15.1% of the student population (Oregon Department of Education [ODE], 2012). Overall, in the five school districts participating in this study, the number of students eligible for special education services ranged from 10.9% to 15.8%." See Table 6 for more detailed district demographic information. The state-wide special education average,15.1%, was slightly higher than the overall study average of 13.2%.

TABLE 6. District Special Education Data, 2010-2011

School District	Students	Special Education %
SD 1	6,427	13.4
SD 2	11,302	15.8
SD 3	10,756	12.8
SD 4	3,435	13.3
SD 5	12,146	10.9
	8,813.2	13.2

Special Education by Elementary School

Among the 41 elementary schools that participated in my study, the Special Education percentage ranged from a minimum of 7.2% at Elementary School 25 to a maximum of 17.9% at Elementary School 25 with an average across all 41elementary schools of 11.3%. See Appendix B for detailed data on the Special Education percentage by elementary school. The average Special Education percentage for the 41 elementary schools of 11.3% was markedly lower than the state average at 15.1%.

NCLB Factors Summary

In summary, the elementary schools that participated in this study on average served a substantially higher number of minority students, as well as students who qualified for ELL and received free and reduced meals; however, the percentage of the special education population in these elementary schools was lower than the state average.

School Psychologists

Twenty-four school psychologists served the 41 elementary schools that were described in the previous section. Importantly, the number of schools, 41, was not reflective of 41 different school psychologists. Most of the 24 school psychologists were responsible for more than one school, which meant school psychologists were asked to complete a survey specific to each elementary school served. There were 12 school psychologists participating in this study who served more than one elementary school,

and four school psychologists who served in three different elementary schools. School Psychologist 10 served four schools, which was the highest number of buildings served by a school psychologist who participated in this study. See Appendix D for a complete list of school psychologists and building assignments, and total years of experience. All 24 school psychologists, serving the 41 schools, completed surveys for each of their schools.

Data revealed that most school psychologists (83%) had participated in at least five PBIS training sessions over the course of their careers. However, there were four elementary schools represented by two school psychologists who did not participate in any PBIS training sessions. Further, two school psychologists, serving seven schools, participated in only one to two PBIS training sessions.

The average number of students on a school psychologist's caseload was 23.5 students with a range of seven to 53 students. Each school psychologist spent at least one day per week at each building assigned to him or her, with a range of 1 to 5 days of service across 41 buildings.

The average number of years of experience across all 41 elementary schools was 11.8 years. School Psychologist 10 had the most experience at 30 years, and School Psychologist 5 had the least amount of experience with one year.

Nearly half of the school psychologists who participated in this study attended Lewis & Clark College, which is located in the Portland metropolitan area. All school psychologists who participated in this study had earned degrees at an institution accredited by the National Council for Accreditation of Teacher Education (NCATE). See

Appendix E for more detailed school psychologist demographic information, including graduate schools attended, race, and gender.

According to the National Association of School Psychologists (NASP, 2008), females account for 74% of practicing school psychologists. The gender disparity was even more pronounced in this study, as 92% of the school psychologists were female. Of the school psychologists who participated in this study, 92% were Caucasian, which was reflective of the national average of roughly 93% (NASP, 2008).

Study Variables

In this section, the sampling frame, implementation of PBIS, and the dependent variables—i.e., level of PBIS implementation and the prioritization of activities performed on the School Psychologists Survey—are described. Next, a description of activities performed by school psychologists outside the context of PBIS (public health model) and the activities performed inside of this context (public health model) are provided. Finally, the information used to create the survey instrument that operationally defined activities a school psychologist performed within and outside of a PBIS system or public health model of service delivery is presented along with the method used to score the survey items.

PBIS

My study did not directly manipulate each school's school-wide behavior system (PBIS) as a variable. The main purpose of PBIS is to establish a positive school climate

for all students and create systems that can adjust and meet the fluidity of behavioral changes and needs for all students. This preventive approach is counter to a reactive approach where student behavior problems are met with consequences immediately after the student exhibits undesired behavior. Instead, an effectively implemented PBIS model uses preventive strategies provided to all students within a multitiered framework.

The PBIS model is three-tiered, which includes a layer of primary supports that all students receive. In this layer, all students receive training that includes expected social behaviors and reinforcement for those behaviors. The reinforcement students receive in this layer will meet the needs of approximately 80% of the student population. Schools participating in this study share the following broad social behavior expectations: be respectful, be responsible, and be safe. Each school taught these broad social behavior expectations to students in September 2011.

Approximately 10% to 15% of students who do not respond to the primary layer of universal support receive a second layer of support in the form of targeted interventions. These students are provided secondary supports that include small-group-based interventions with increased structure and feedback.

A third and even smaller number of students (1% to 5%) enter schools with significant skills deficits and do not respond to universal and secondary interventions. These students need more intensive individualized interventions in order to succeed in school. These supports are individually based, and more intensive both in the amount of time needed for support and the actual support itself.

Dependent Variables

As stated earlier, the dependent variable was the level of public health service implementation. Two measures were used to assess the dependent variable: (a) the SET and (b) the School Psychologist Survey. Both measures were used to investigate the relation between the prioritization of activities performed by school psychologists and the service delivery model implemented at their elementary schools. Extant SET data were collected from each elementary school to determine effective implementation of PBIS. These data were then compared to data gathered from the second measure, the School Psychologist Survey.

School-Wide Evaluation Tool (SET)

The School-Wide Evaluation Tool (SET) contained extant data available for the 41 elementary schools that participated in this study. The SET's extant data were accessed in May of 2012. See Appendix J for a copy of the SET.

The developers of PBIS created the School-Wide Evaluation Tool (SET) as a measure of the degree to which schools are implementing the key features of school-wide PBIS. The following are the seven key features: *Expectations Defined* (three to five positive school-wide behavioral expectations are defined)*; Behavioral Expectations Taught* (these expectations are taught to all children in the school); *System for Rewarding Behavioral Expectations* (rewards are provided for meeting the behavioral expectations); *System for Responding to Behavioral Violations* (a consistently implemented continuum of consequences for problem behavior is in place); *Monitoring and Evaluation* (behavior

patterns are monitored and the information is used for ongoing decision-making); *Management* (an administrator actively supports and is involved in the PBIS effort, and a comprehensive school-wide behavior support team is formed); and *District-Level Support* (the school district provides support to the school in the form of functional policies, staff training, and data-collection opportunities; Horner et al., 2004).

An overall summary score can be computed by averaging all seven key features (referred to as the Overall SET score), which also ranges from zero to 100%. The developers of PBIS asserted that benefits of the program, or implementation fidelity, are present when schools receive a 80% or higher score on both the SET-General Index (which is a sum total of the seven index scores) and the SET-Behavior Expectations Index (Horner et al., 2004). This is commonly referred to as achieving a score of 80/80. All schools participating in this study had their SET completed by a trained observer, as per the guidelines developed by the PBIS network.

School Psychologist Survey

I used the NASP (2010) data decision-making model and the foundational principles of PBIS, or a public health model, to create a brief survey for school psychologists that included 15 questions under the following four domains: (a) test and place; (b) progress monitoring and problem solving; (c) assessment and intervention design; and (d) training school staff to assess, intervene, adapt and use data for decision-making. For each question on the survey, school psychologists estimated the amount of time they devoted per month between September 2011 and January 2012 at their specific

school. Importantly, the survey answers could vary by school for a school psychologist serving multiple schools. Questions were scrambled and domains were not articulated as part of the survey. School psychologists were not provided with any information regarding the question and matching domain. In addition to estimating the amount of time devoted to each item, school psychologists also indicated whether or not they considered these activities as primarily performed for testing and placing into special education (medical model) or for development, implementation, and monitoring of interventions (public health model). See Appendix F for the School Psychologist Survey.

Medical Model Operationalized in the Survey

Test and Place

The test-and-place domain is operationally defined in accordance to Oregon's child find law, which states that initial evaluation for special education must be completed within 60 school days. In addition to initial evaluations, re-evaluations are conducted on a tri-annual basis in accordance with IDEIA. School psychologists routinely give standardized tests as part of an initial and tri-annual evaluation. Under the test-and-place domain, school psychologists selected the amount of time they devoted toward tasks for the following questions:

1. How often did you administer a standardized assessment of any kind (cognitive, adaptive, behavioral, and/or academic as part of an initial or 3-year re-evaluation?

2. How often did you conduct an observation as part of an initial or 3-year re-evaluation?

3. How often did you participate in meetings related to the special education process (parent permission to evaluate, eligibility, placement, or IEP meeting)?

4. With what frequency did you complete documentation related to the special education process (written psycho-educational reports or any other notes used as documentation related to special education eligibility, placement or services)?

5. How often did you provide consultative services to staff for students who receive special education services?

Public Health Model Operationalized in the Survey

Progress Monitoring and Problem Solving

Progress monitoring and problem solving are activities included under the second domain, the public health model. Another foundational component of PBIS is continuously using data to determine the effectiveness of universal supports, secondary, and tertiary interventions. School psychologists typically use data as a one-time measure to determine special education eligibility status and placement of a student during meetings related to the special education process. The progress monitoring and problem solving domain included questions that were specific to progress monitoring within PBIS. Under the progress-monitoring and problem-solving domain, school psychologists indicated the amount of time they devoted toward tasks contained in the following questions:

1. How often did you use data personally or as a member of a team to monitor responses of general education students to behavioral interventions?

2. With what frequency did you report progress-monitoring data to a problem-solving or PBIS team related to effectiveness of a behavioral intervention for general education student?

3. How often did you adjust behavioral interventions for general education students based on progress-monitoring data?

Assessment and Intervention Design

Assessment and intervention design are also activities under the public health model domain that will be used in the school psychologist survey. Again, assessment and intervention design is specific to a school psychologist's role as it relates to PBIS. School psychologists conduct many standardized assessments as part of eligibility meetings, but in a PBIS role, these assessments and interventions are used in a proactive manner. School psychologists were asked to answer the following questions under the assessment and intervention design domain as they relate to their involvement with general education students:

1. How often did you provide direct or indirect support for behavioral interventions for general education students?

2. With what frequency did you perform direct or indirect consultative activities to help implement a data-based intervention?

3. How often did you design or conduct a behavior assessment to measure fidelity of interventions for general education students?

4. How often did you include evidence-based practices as part of your behavior intervention plans?

Train Staff to Intervene, Adapt and Use Data for Decision-Making Activities

Lastly, the train staff to intervene, adapt and use data for decision-making activities under the public health model domain, for my study, was specific to the functional behavior assessment (FBA) process as it relates to PBIS. An FBA is an investigative procedure for the purpose of gathering information to determine the function of a student's behavior.

Anytime school staff express concerns about the behavior of a student with a disability, they are required by IDEA to undertake the functional behavior assessment process in order to determine why a student is not having success within a context or setting. By determining the purpose of the behavior, educational personnel can then devise interventions to help the student display more acceptable behaviors that will meet his or her needs or desires. Typically, school psychologists play a role in the FBA process for students who have disabilities.

Although students who require a comprehensive FBA represent only 1% to 5% of the student population, they can often account for more than 50% of behavioral referrals (Sugai et al., 2000; Taylor-Greene et al., 1997). Many of these students require comprehensive behavioral supports that are intensive and require multiple stakeholders, including family and school, as well as community participation in their "host environments" (Eber et al., 2002).

PBIS heavily emphasizes choosing an intervention for a student that has an appropriate contextual fit. Often, an FBA is used to determine the function of a student's behavior and modification to the environment or context to eliminate the undesirable behavior and promote an alternate, acceptable behavior. Under the intervene, adapt and use data for decision-making domain, school psychologists indicate the amount of time devoted toward training staff or intervening with a general education student through an FBA process to use data to inform behavioral supports . The following three questions were asked under the intervene, adapt and use data for decision-making domain:

1. How often did you present material about the FBA process for your school building staff?

2. How often did you consult with a teacher or another staff member on conducting an FBA for a general education student?

3. How often did you discuss FBA data with your problem-solving team or PBIS team?

See Appendix F for a copy of the School Psychologist Survey.

Survey Scoring

School psychologists marked one of the following for all 15 questions: 0 (never), 1 (less than 2 times per month), 2 (3 to 4 times per month), 3 (5 to 6 times per month), 4 (7 to 8 times per month), or 5 (more than 9 times per month). These data represented the prioritization of activities as measured by the estimation of time devoted to them. See Appendix C for a table that has a range of values (0 to 5) for each survey item. For all 15

questions, school psychologists also chose whether they believed the activity was performed primarily for testing and placing purposes or for the development, implementation, and monitoring of interventions (public health model).

Items they considered to fall under the medical health model were scored 0, and items they considered as falling under the public health model were scored 1. All survey items were tallied together to form a survey total that ranged from 0 to 15. A survey total of 15 indicated practices most consistent with a public health model of service delivery, and items that totaled 0 indicated practices consistent primarily with a medical model of service delivery.

An additional method for scoring the School Psychologist Survey was used to analyze the relationship between the frequency an activity was performed and the model of service delivery that was chosen. For purposes of this study, if the survey question activity fell under the public health model (PBIS/Prevention), but the school psychologist indicated that he or she performed this activity only 1-2 times a month or never, then this item was categorized under the medical model. For example, if School Psychologist 10 stated that he or she never reported progress-monitoring data to PBIS teams (i.e., an item that operationally defined the public health model of service delivery), but considered this activity as falling under the development, implementation, and monitoring of interventions (public health model), then his or her response would fall under the medical model. More simply stated, the school psychologist never reported the results, which is not consistent with the public health model, and therefore, the activity in this area must be categorized under the medical model. Also, following this same line of reasoning, if a

survey item was operationalized under the public health model (PBIS/Prevention), and the school psychologist indicated that he or she performed this activity 3-4 times or more, then this item remained in the public health model category.

Again, survey items meeting the criteria for the medical health model were scored as a 0, and items meeting the criteria for the public health model earned a score of 1. All test items were held to these scoring rules and subsequently scored and sorted into two composites: medical model (test and place) or public health model (PBIS/Prevention). A survey total of 15 indicated practices most consistent with a public health model of service delivery, and items that totaled 0 indicated practices consistent primarily with a medical model of service delivery.

Survey Construction and Design

Phase I commenced in March 2010 as I convened and facilitated a focus group to identify activities school psychologists perform within both models of service delivery. Five school psychologists devoted 3 hours to this task. The primary purpose of this phase was to ensure accuracy and specification of current activities performed by school psychologists, to establish the content validity of the items included in this survey, and to assist in narrowing my literature search for activities school psychologists potentially performed. School psychologists identified five areas of prevention, including functional behavior assessments (FBA), behavior intervention plans, and developing, supporting, and monitoring tiered instruction, direct instruction, and risk screens. They also identified

testing-and-placing as an activity performed under the medical model. See Appendix H for information obtained from the focus group.

Phase II of survey construction and design involved an extensive literature search. Between September 2010 and June 2011, a literature search was conducted to calibrate the five areas identified by the focus group with those activities consistent with a public health model of service delivery, and the testing-and placing activity under the medical model of service delivery. These areas identified by the focus group helped narrow my search of literature related to prevention and the public health model. As a result of the focus group activities and the literature search, specific activities performed by school psychologists were identified as survey items for both models of service delivery. Phase III was dedicated to creating an electronic survey with the information gathered through the prior phases. A Google Form was developed using the questions under both composites. Lastly, during Phase IV, the survey was piloted on 12 school psychologists from Oregon who were nonparticipants of this study. In November 2011, this school psychologist group completed the survey, and provided feedback on the appropriateness of the items and their overall experience with the survey. Their feedback was incorporated into the survey alterations.

Operational Timeline and Data-Collection Procedure

In November 2011, district administrators from all five school districts were contacted and offered the opportunity to participate in this study. This contact was initiated to (a) seek verbal permission from district administration to conduct this study

and request confirmation of permission granted in a follow-up email, (b) debrief district administration on the purpose and timeline for this study and communicate guidelines for participation, and (c) arrange to be scheduled on the district's school psychologists' discipline meeting agenda between January and February 2012.

Between January and February of 2012, and after receiving verbal and written consent to participate from each district administrator, school psychologists from each district were briefed on their potential role in this study, and informed consent forms were gathered. Signed informed consent forms were received from all 24 school psychologists, representing 41 elementary schools located within the five school districts. In February 2012, school psychologists received an email containing a link to the survey through Google Forms. Data were gathered as each school psychologist submitted his or her survey, and then these data were cleaned and analyzed in April and May of 2012.

Additionally, the timeline for gathering extant SET data followed a similar pattern. In November 2011, Dr. Horner gave verbal and written permission to obtain access to extant SET data for the five districts participating in this study. He confirmed this conversation in a follow-up email. In May of 2012, extant SET data was requested from Dr. Horner for each elementary school located within all five districts participating in this study. School District 4 submitted their extant SET data in June 2012.

Description of Data Analysis

A descriptive statistical analysis was conducted to provide numerical measures describing the distribution for the following measures: SET-General Index scores and SET-Behavior Expectation Index scores, and scores yielded from the School Psychologist Survey. In addition to this descriptive statistical analysis, inferential statistics were used to measure the correlation between the School Psychologist Survey, the SET-General Index data, and the SET-Behavior Expectation Index data. A multiple-regression analysis was also conducted to determine which variable (i.e., SET-Behavior Expectation Index or SET-General Index) was the best predictor of outcome data from the School Psychologist Survey. These data were also entered into scatterplots to provide interpretations of meaningful statistical significance for an in-depth analysis of the School Psychologist Survey.

CHAPTER IV

RESULTS

Prior to answering the research questions, this chapter provides descriptive statistics for the variables used in the analyses. The first research question used a count from the School Psychologist Survey. Question 2 was answered utilizing correlation coefficients between the three measurement variables. Also, the two independent variables were analyzed for collinearity issues. Question 3 was addressed through a multiple-regression model that analyzed the relative predictive nature of the School Psychologist Survey in relation to the SET-General Index and the SET-Behavior Expectation Index and scores. Lastly, scatterplots, with defined quadrants, were provided as a visual representation of outcomes from the School Psychologist Survey and the 80/80 outcomes of the SET-General Index and the SET-Behavior Expectations Index to answer Question 4.

Descriptive Statistics

Table 7 displays the number of cases, means, standard deviations, minimum scores, and maximum scores for (a) the School Psychologist Survey, (b) SET-General Index, and (c) SET-Behavior Expectation Index. The school psychologists, who were assigned to 41 elementary schools within the five school districts participating in this study, completed the School Psychologist Survey for each school. Extant SET-General

Index and SET-Behavior Expectation Index outcome data for all 41 elementary schools were also represented. See Table 7 for more complete descriptive statistics.

TABLE 7. Descriptive Statistics of Assessment Results

Measure	Count	Mean	Std. Dev.	Minimum	Maximum
School Psych. Survey	41	4.07	3.13	0.00	11
SET-General Index	41	90.95	6.29	76.70	100
SET-Behavior Expect. Index	41	92.20	11.94	60.00	100

Analyzing for Multicollinearity

Before the research questions could be answered, it was important to rule out multicollinearity among the variables. Multicollinearity is a statistical phenomenon where there is close to a near perfect linear relationship between two or more independent variables in a regression model. In practical terms, this means there is shared or overlapping properties among variables. While multicollinearity is not a fatal flaw, it makes interpretation of the data more difficult because variables are less distinguishable due to the redundancy of data. When there is overlap among some of the variables, it takes more data to disentangle the individual effects of these variables, causing a loss in numerical power.

I used two tests for determining multicollinearity: (a) correlation and (b) tolerance/variance inflation factor (VIF). Correlation analysis is the most simple and the least predictive. As a general rule, if the correlation was .90 or larger, the variables

would be too closely related to be used in the same regression analysis (Abrams, 2007), which would lead to a presumed presence of collinearity.

Table 8 shows that none of the correlations reached the .90 threshold. Because none of the correlations showed the degree of redundancy or overlap, the first tests showed a lack multicollinearity (Abrams, 2007).

TABLE 8. Pearson Correlation Matrix

Variable	Survey	SET
SET-General Index	-.246	
SET-Behavior Expect. Index	.169	.624*

*Correlation is significant at the 0.01 level (2-tailed).

The second collinearity test used (a) measures of tolerance and (b) variance inflation factor (VIF). Norusis (2002) defined tolerance as the proportion of the independent "variable that is *not* explained by its linear relationships with the other independent variables in the model" (p. 529). As per Tomkins (1992), tolerance values range from 0 to 1. A value close to 1 indicates that an independent variable has little of its variability explained by the other independent variables. A value close to 0 indicates that a variable is almost a linear combination of the other independent variables and would be identified as multicollinear. In my study, the tolerance value for the SET-General Index was .61, and for the SET-Behavior Expectation Index it was also .61. My tolerance numbers corroborate the previously reported correlations and indicate a lack of collinearity. See Table 9 for complete tolerance statistics.

TABLE 9. Tolerance/VIF Matrix

	Tolerance	Variance Inflation Factor (VIF)
SET-General Index	.61	1.64
SET-Behavior Expect. Index	.61	1.64

VIF is the reciprocal of tolerance in which large values indicate a strong relationship between predictor variables (Mansfield & Helms, 1982). A VIF greater than or equal to 10 suggests multicollinearity (Belsley, Kuh, & Welsch, 1980; Gammie, Jones, & Robertson-Millar, 2003). Again, the VIF is an index that shows the degree to which the variance of the coefficient estimate is being inflated by multicollinearity. In my study the VIF value for the SET-General Index was 1.64, and for the SET-Behavior Expectation Index it was also 1.64. VIF statistics substantiated the reported correlations and tolerance numbers and indicated a lack of collinearity. See Table 9 for complete VIF statistics.

Question 1: School Systems Defined as Either a Public Health Model or a Mental Health Model

Question 1 was answered through the utilization of a simple count gathered from the School Psychologist Survey. For the purposes of this count, a survey that totaled 7 or over was considered as a school that operated primarily using a public health model of service delivery. Survey totals of 6 or lower were considered as a school that operated primarily using a medical model of service delivery. Twenty school psychologists (48.8%) rated activities they performed within their schools as being consistent with a medical model of service delivery. Conversely, 21 school psychologists (51.2%) rated activities they performed within their schools as being consistent with a public health

model of service delivery. See Figure 5 for a bar chart depicting school psychologists' ratings of the service delivery model that guides their practices within their schools.

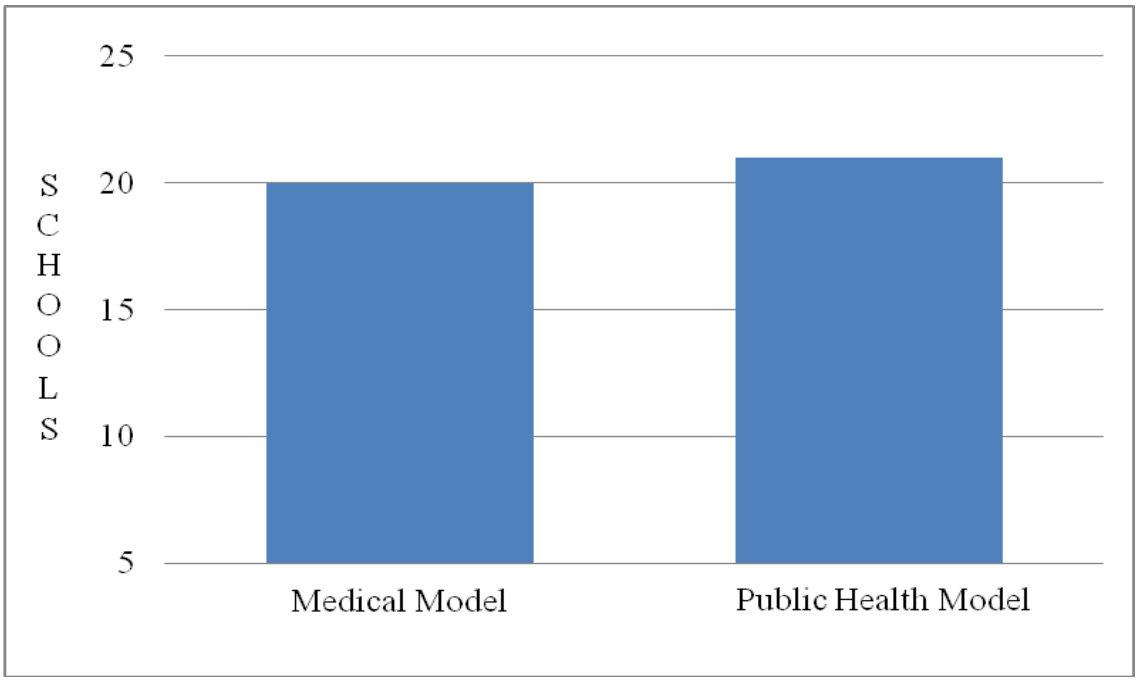

FIGURE 5. Count of school psychologists' rating of schools.

Question 2: Relationship Among Measurement Variables

Question 2 analyzed the relationship between preventative activities performed by school psychologists and the level of PBIS implementation (public health model) at their schools. The relationship was determined by a Pearson correlation. Table 8 provides the correlation coefficients for the three measures. There was a negative weak relationship between the School Psychologist Survey and SET-General Index (r = -.25). There was weak relationship between the School Psychologist Survey and the SET-Behavior

Expectation Index (r =.17). There was a moderate positive relationship between the SET-General Index and Behavior Expectation Index (r =.62).

Question 3: Predictive Nature of School of the SET-General Index and the SET-Behavior Expectation Index in Relation to the School Psychologist Survey

Question 3 addressed the relative predictive nature of the SET-General Index and the SET-Behavior Index (or level of PBIS implementation) in relation to the School Psychologist Survey. The SET-General Index and the SET-Behavior Expectation Index were included in a multiple-regression analysis against the School Psychologist Survey. The ANOVA statistics indicated that both the SET-General Index and the SET-Behavior Expectation Index significantly predicted the results of the School Psychologist Survey (p =.007). See Table 10 for the complete ANOVA statistics. Additionally, the coefficients (adjusted R^2 =.19) indicated that over 19% of the variance could be explained by the SET-General Index and the SET-Behavior Expectation Index.

TABLE 10. ANOVA Statistics for Regression Model

Model	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	90.74	2	45.37	5.71	.007
Residual	302.04	38	7.95		
Total	392.78	40			

Standardized Coefficients

Table 11 provides results from the multiple regression with the School Psychologist Survey as the constant and the SET-General Index and the SET-Behavior

Expectation Index as the predictor variables. The standardized coefficients indicated that the SET-General Index (β = -.58) was slightly more predictive than the SET-Behavior Expectation Index (β = .53).

TABLE 11. Regression of SET and Behavior Index on the School Psychologist Survey

	Unstandardized Coefficients		Standardized Coefficients		
Model	*B*	Std. Error	Beta	*t*	Sig.
(Constant)	17.35	.65		2.67	.011
SET-General Index	-.29	.09	-.58	-3.16	.003
SET-Behavior Expect. Index	.14	.05	.53	2.90	.006

Semipartial Correlations

Table 12 provides further information pertaining to the regression analysis. The semipartial correlations are included. The semipartial correlation for the SET-General Index (-.45) was negative and slightly larger than the semipartial for the SET-Behavior Expectation Index (.41). The square of the coefficients showed that 20% of the variance can be uniquely explained by the SET-General Index. The SET-Behavior Expectation Index uniquely explains 17% of the variance. See Table 12 for complete semipartial data.

TABLE 12. Semipartial Correlations: SET and Behavior Index

	Correlations	
Model	Zero-order	Semipartial
SET	-.25	-.45
Behavior Index	.17	.41

Question 4: School Psychologist Survey Versus the 80/80 Outcomes of the SET and Behavioral Index Scores

Question 4 was addressed in two parts through scatterplots demonstrating how the 80/80 outcomes of the SET and Behavior Index scores compared to the School Psychologist Survey results. Statistics were provided for both the SET-General Index and School Psychologist Survey outcomes by quadrant, and the SET-Behavior Expectations Index and School Psychologist Survey outcomes by quadrant. In addition, an explanation was provided for how each quadrant was defined for this study.

School Psychologist Survey and the SET (General Index and Behavior Expectations Index) Outcomes

As per Chapter III under the scoring section, items that comprised the School Psychologists Survey fell under either one of two categories, the medical model or the public health model. A total survey score of 15 indicated practices consistent primarily with the public health model of service delivery, and items that totaled 0 indicated practices consistent primarily with a medical model of service delivery when the additional scoring rules were applied. As seen in Figure 6, a coordinate axis was laterally drawn at 7, representing School Psychologist Survey practices consistent with a mixed model of service delivery, or a blend between a medical model and public health model of service delivery.

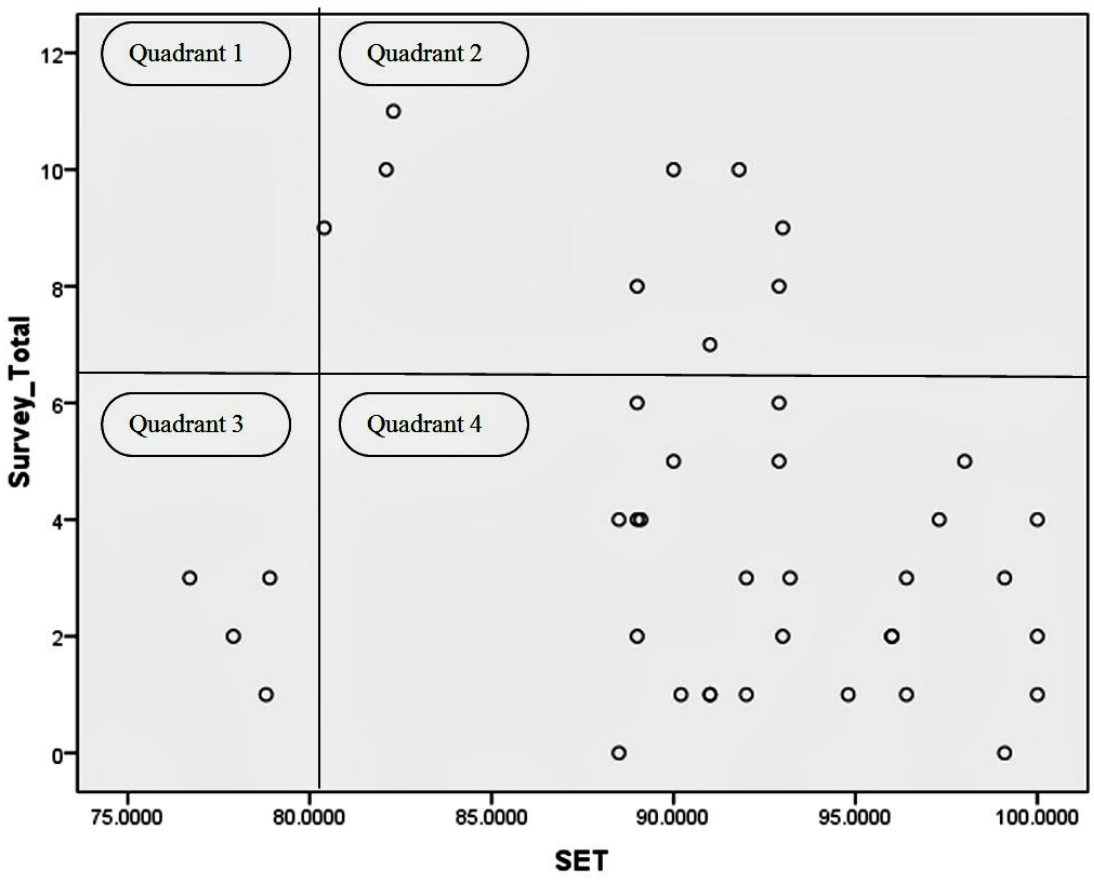

FIGURE 6. School Psychologists Survey data and SET-General Index scores.

The second coordinate axis was vertically drawn with a line at 80. Coordinate 80 was chosen as an axis point because the developers of PBIS asserted that benefits of the program, or implementation fidelity, are present when schools receive a score of 80% or higher on both the SET-General Index score (which is a sum total of the seven index scores) and the SET-Behavior Expectations Index (Horner et al., 2004). These two axis coordinates formed the following four quadrants, which is also displayed in Figure 6.

Quadrant 1

This quadrant represented practices that were most consistent with a public health model, according to the School Psychologist Survey, but had a low SET-General Index score. There were no scores that fell in this quadrant.

Quadrant 2

Data that fell within Quadrant 2 represented practices that were most consistent with a public health model and had a high SET-General Index score. This quadrant represented nine schools, which accounted for 22.0% of the outcome data.

Quadrant 3

This quadrant represented practices that were most consistent with a medical model of service delivery and had a low SET-General Index score. This quadrant represented four schools, which were 9.8% of the outcome data.

Quadrant 4

Data that fell within Quadrant 4 represented practices that were most consistent with a medical model, but had a high SET-General Index score. This quadrant represented 28 schools, which signified 68.3% of the outcome data.

School Psychologist Survey and the SET-Behavior Expectations Index Outcomes

As noted previously, a total score of 15 on the School Psychologist Survey indicated practices consistent primarily with the public health model of service delivery, and items that totaled 0 indicated practices consistent primarily with a medical model of service delivery when the additional scoring rules were applied. As seen in Figure 7, a coordinate axis was laterally drawn at 7. The second coordinate axis was vertically drawn at 80 for the SET-Behavior Expectations Index. Coordinate 80 was chosen as an axis

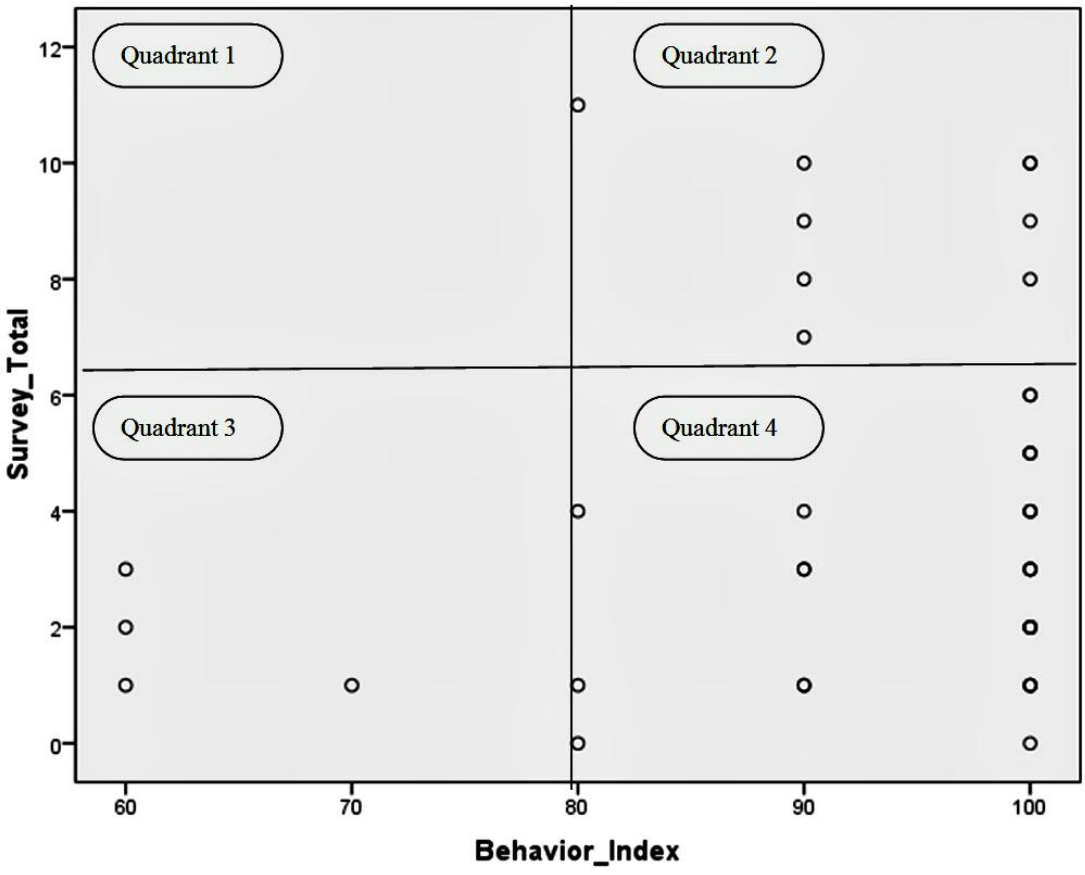

FIGURE 7. School Psychologists Survey data and the SET-Behavior Expectations Index.

point because the developers of PBIS proclaimed benefits of program or implementation fidelity at that percentage (Horner et al., 2004). These two axis coordinates formed four quadrants, which are also displayed in Figure 7.

Quadrant 1

This quadrant represented practices that were most consistent with a public health model, and a low SET-Behavior Expectations Index score. There were no scores that fell in this quadrant.

Quadrant 2

Data that fell within Quadrant 2 represented practices that were most consistent with a public health model, and a high SET-Behavior Expectations Index score. This quadrant represented eight schools, which accounted for 19.5% of the outcome data.

Quadrant 3

This quadrant represented practices that were most consistent with a medical model of service delivery, and a low SET-Behavior Expectations Index score. This quadrant represented four schools, which were 9.8% of the outcome data.

Quadrant 4

Data that fell within Quadrant 4 represented practices that were most consistent with a medical model, but had a high SET-Behavior Expectations Index score. This quadrant represented 29 schools, which signified 70.7% of the outcome data.

Results Summary

As per the School Psychologist Survey, slightly more buildings (2.4%) operated from a public health model of service delivery than a medical model of service delivery. The correlation coefficients indicated a negative weak relationship between the School Psychologist Survey and the SET-General Index (r =.-25) and a weak relationship between the School Psychologist Survey and the SET-Behavior Expectations Index (r =.17).

The multiple regression analysis used the SET-General Index and SET-Behavior Expectations Index as the two independent variables to predict the School Psychologist Survey. This multiple regression revealed that the SET-General Index (β = -.58) was slightly more predictive of the School Psychologist Survey than the SET-Behavior Expectations Index (β = .53).

Lastly, the School Psychologists Survey results evidenced practices that were most consistent with a medical model, but their schools had high SET-General Index scores (a public health model). That dichotomy was visually represented by Quadrant 4 from Figure 6, where 68.3% of the outcome data fell. Also, the same dichotomy existed

between the School Psychologist Survey and the SET-Behavior Expectations Index scores, where 70.7% of the outcome data existed in Quadrant 4 of Figure 7.

CHAPTER V

DISCUSSION

School psychologists are caught between impinging forces. On one hand, school psychologists must meet the medical model's compliance-related demands, which are monitored by district, state, and federal agencies, and on the other, they must implement specific preventative academic and behavioral practices and activities as specified by current response-to-intervention (RtI) policies and legislation. This lack of job clarity and activity specification finds its genesis in current educational policy that is shifting service delivery models—moving from a medical health model to a public health model.

My study provides evidence of the confusion school psychologists are experiencing as they attempt to prioritize activities that fall under two distinct models of service delivery within their building's behavioral system. All elementary schools participating in this study implemented PBIS, and therefore were considered schools that were attempting to operate from a public health model. The purpose of this study was to examine specific activities school psychologists can perform in order to shift from a traditionally used medical model of service delivery to a more contemporary public health model of service delivery, ultimately increasing the level of prevention and effectiveness of the behavioral system within their elementary schools. To this end, in my study, I answered the following research questions:

1. Do the school systems define their school psychologist's activities as part of a public health model or medical model?

2. What is the relationship of the preventative activities performed by school psychologists (as defined by the School Psychologist Survey) related to the SET-General Index and SET-Behavior Expectations Index outcomes of PBIS implementation (public health model) at their schools?

3. What is the relative predictive nature of the SET-General Index and the SET-Behavior Expectations Index in relation to the School Psychologist Survey?

4. Does the School Psychologist Survey visually represent the 80/80 outcomes of the SET-General Index and the SET-Behavior Expectations Index scores?

Results Summary

As per the School Psychologist Survey, 2.4% more buildings operated from a public health model of service delivery than from a medical model of service delivery. These findings were based on the school psychologists' perceptions of how they operated within their buildings' behavioral system. However, the correlation coefficients (from Chapter IV) indicated a negative weak relationship between the School Psychologist Survey and the SET-General Index (r = -.25) and a weak relationship between the School Psychologist Survey and the SET-Behavior Expectations Index (r = .17).

The multiple-regression analysis used the SET-General Index and the SET-Behavior Expectations Index as the two independent variables to predict the School Psychologist Survey. This multiple regression revealed that the SET-General Index (β = -.58) was slightly more predictive of the School Psychologist Survey than the SET-Behavior Index (β = .53).

Lastly, in terms of how the School Psychologists Survey results visually represented 80/80 outcome data, the survey results evidenced practices that were most consistent with a medical model, but their schools reported high SET-General Index scores, which is indicative of a public health model. Those opposing scores are visually represented by Quadrant 4 from Figure 6 (68.3% of the outcome data). Moreover, the schools also reported high SET-Behavior Expectations Index scores (70.7% of the outcome data), which would be associated with a public health model. Again, the opposing School Psychologist Survey scores and the SET-Behavior Expectations Index are visually represented in Quadrant 4 from Figure 7. The Findings section of this chapter provides further analysis of these data. Before discussing the implications of my study, I will examine my study's limitations.

Limitations

The descriptive and inferential findings of this study have the potential implications to develop, guide, replicate, and extend current PBIS research literature and preventative practices, as well as program planning for school psychological services delivered in an elementary school setting. Although the generalizability of these findings is limited, my study provides evidence showing the service delivery model confusion among current school psychologists, and the lack of priority school psychologists place on preventative activities even when they are operating within a research- and evidence-based behavioral system.

This section includes limitations that potentially impacted the results of this study. Included in this section are identified threats to the internal validity for this study. Included are factors identified as threats to its external, statistical, and construct validity (Parker, 1990).

Threat to External Validity

Selection

All schools were chosen due to geographical location and because they implemented PBIS. School psychologists were asked to participate because they were employees of the five participating districts. Districts, schools located within these districts, and school psychologists who voluntarily participated were not randomly selected. The elementary schools that participated in this study served, on average, a substantially higher number of (a) minority students, (b) students who qualified for ELL, and (c) students who received free and reduced meals. However, the special education population for these elementary schools was lower in comparison to the state average. Therefore, my research outcomes might be generalizable only to districts that serve similar student populations—i.e., those that mirror the unique demographics found in the districts that participated in my study.

Further, all schools participating in this study implemented PBIS. Therefore, my results might be generalizable only to schools that also implement PBIS with similar student populations. However, as per my literature review, there is an inextricable link between PBIS, RtI, and a public health model of service delivery; therefore, results might

be generalizable to schools that implement programs consistent with the operationalized definition of the public health model of service delivery that was used in my study.

Threats to Statistical Validity

The School Psychologist Survey was a measure created specifically for this study and, thus, lacked reliability of measure statistics. There were multiple phases used to design this measure, including a pilot phase, to reliably measure activities performed by school psychologists within an elementary school setting. However, a complete statistical validation of the School Psychologist Survey was not conducted. Therefore, my research conclusions must be made with that caveat in mind. Conversely, the lack of statistical validation for the survey, while a limitation, offers future research possibilities. At the very least, if this tool is used for future studies, a second vetting of the reliability of this measure is recommended.

Threats to Construct Validity

The School Psychologist Survey was the only measure used to assess the activities school psychologists performed and the service delivery models implemented at the elementary school, which could cause mono-operational bias. The use of one measure might be problematic because of the possibility that this instrument was not comprehensive or sensitive enough to capture all activities related to a public health model of service delivery. The School Psychologist Survey was limited to assessing the activities that were used to operationalize public health and medical models of service

delivery for the purposes of this study. Therefore, a school psychologist could have appeared to operate solely from a medical model of service delivery when in fact he or she performed other activities that might fall under a public health model of service delivery and that were not included in the School Psychologist Survey.

Findings

As per my literature review, evidence clearly demonstrates that today's school psychologists are providing service within two distinct models of service delivery. My results show that RtI policy is not translating to practice for school psychologists. Therefore, it is prudent to accurately pinpoint specific activities consistent with the tenets of a public health model that school psychologists can potentially perform with consistency and effectiveness. Sheridan and Gutkin (2000) opined that schools

> cannot serve children effectively by decontextualizing their problems as internal pathologies, as the *medical model* would have us do. We must understand how dysfunction related to the larger systems that encompass our clients, and find ways to intervention effectively with these systems. (p. 49)

Question 1 Findings and Interpretation

Prior research findings across a 50-year span of time indicated that school psychologists continue to spend approximately 50% to 55% of their time in psychoeducational assessment activities (Cutts, 1955; Fagan &Wise, 2000; Reschly & Wilson, 1995). Findings in my study showed a continuation of this trend, as 78% of school psychologists were primarily operating from a medical model of service delivery

when the additional scoring rules were applied. My findings also paralleled Hall's (2002) study, where 800 school psychologists estimated that they devoted 18% of their time to interventions, and 46% of their time was devoted to assessment, concluding that school psychologists placed higher priority on activities consistent with a medical model of service delivery.

The primary difference between my study and Hall's (2002) study was that his study did not assess the school psychologists' preventative efforts, or the building systems in which school psychologists practiced. In my study, all 41 buildings implemented PBIS or a public health model, which implied each school psychologist worked within a context or environment that, at the very least, intended to use an RtI framework as guidance. With that said, the activities performed by school psychologists and the frequency with which they were performed were not congruent with the model from which their buildings operated as buildings that implemented PBIS.

My interpretation of this data was that school psychologists were not clear as to the activities they performed and the appropriate classification of these activities (i.e., public health versus medical model), even though they were involved in a system that implemented empirically validated and field-tested interventions (PBIS) with the goal of preventing problem behavior. This begs the question, who is defining the activities school psychologists perform within a building that operates from a public health model of service delivery, and why are school psychologists not adjusting to the demands of their environment?

Achieving Congruence Between Activities Performed and Service Delivery Model Implemented

Data from Question 1 yielded the following findings: The system that school psychologists' buildings used did not clearly articulate expectations for the public health model activities they should perform to implement RtI. How does a school clearly articulate its service delivery model and staff expectations? I suggest that the answer is through facilitative administration (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005). Facilitative administration is achieved when barriers to effective implementation of any initiative are minimized or eliminated—e.g., when training, coaching, resource allocation, and role definition are aligned to meet the long-term goals established by the building and the district.

My findings demonstrated misalignment between activities performed by school psychologists and their building's service delivery model. It is imperative to have a clear understanding of the child's natural environment in order for school psychologists to effectively work with adults in the school. Therefore, district- and school-level administrators need to provide staff members, including school psychologists, with a clearly articulated model of service delivery outlining the critical components of a public health model with explicit guidance on adult expectations, role definition, and practices.

School districts that endorse the implementation of evidence-based practice using a public health model of serviced delivery could use the findings of my study as a catalyst for redefining the job description of a school psychologist. School board approval turns a revised job description for school psychologists into policy. Policy provides leverage to

enact a district-wide plan to include coaching and training for all staff on the appropriate utilization of school psychological services within a public health model of service delivery. The school psychologist job description should include activities consistent with those activities included in the School Psychologist Survey, which were derived from the principles outlined in NASP's (2010) Model for Comprehensive and Integrated School Psychological Services, critical features of PBIS, and the tenets of RtI. The School Psychologist Survey activities were consistent with a public health model of service delivered under the following domains: (a) progress monitoring and problem solving; (b) assessment and intervention design; and (c) training school staff to assess, intervene, adapt and use data for decision-making. This revised school psychologist's job description includes the preventative activities that align with a public health model of service delivery, with an emphasis on the school psychologist's involvement in Tier 1 or Universal Supports. For example, the school psychologist could play a key role in the analysis and collection of school-wide data for the purposes of monitoring the effectiveness of the system, identification of needs within the system, and enhancing student outcome. Other examples of activities school psychologists could perform across all three tiers of intervention can be in found in Appendix I.

Role definition will be further established when building- and district-level leadership teams include school psychologists as members with the goal of creating district- and school-wide agreements accompanied with identified supports and data-based action plans (Sugai & Horner, 2002). A primary outcome for these leadership teams is to link membership to actionable steps that relate to school-improvement

objectives. These data-based action plans also double as measurements for student and adult performance, adding a layer of accountability on school administrators to appropriately utilize the efforts of their staff. School administrators would receive in-service training on the new expectations for school psychologists.

Noteworthy is that consultation and collaboration are not new practices for school psychologists, nor is participating as a team member, as school psychologists have been a cog in multidisciplinary teams for decades. Therefore, team membership is not the challenge for school psychologists. Instead, the challenge is integrating more preventative practices into an existing system, which in my study was PBIS.

However, this challenge is not insurmountable. If the steps listed in Figure 8 are completed, then school psychological services will be in accordance with the standards endorsed by NASP's Model for Comprehensive and Integrated School Psychological Services (2010). Activity specification (role definition) and fit within a building's system will only enhance school psychological services, allowing for the promotion of preventative practice within a public health model of service delivery.

Question 2 Findings and Interpretation

Correlation coefficients indicated a negative weak relationship between the School Psychologist Survey and the SET-General Index (r = .-25) and a weak relationship between the School Psychologist Survey and the SET-Behavior Expectations Index (r = .17). In other words, the activities contained within the School Psychologist Survey did not correlate with the SET-General Index and the SET-Behavior Expectations Index

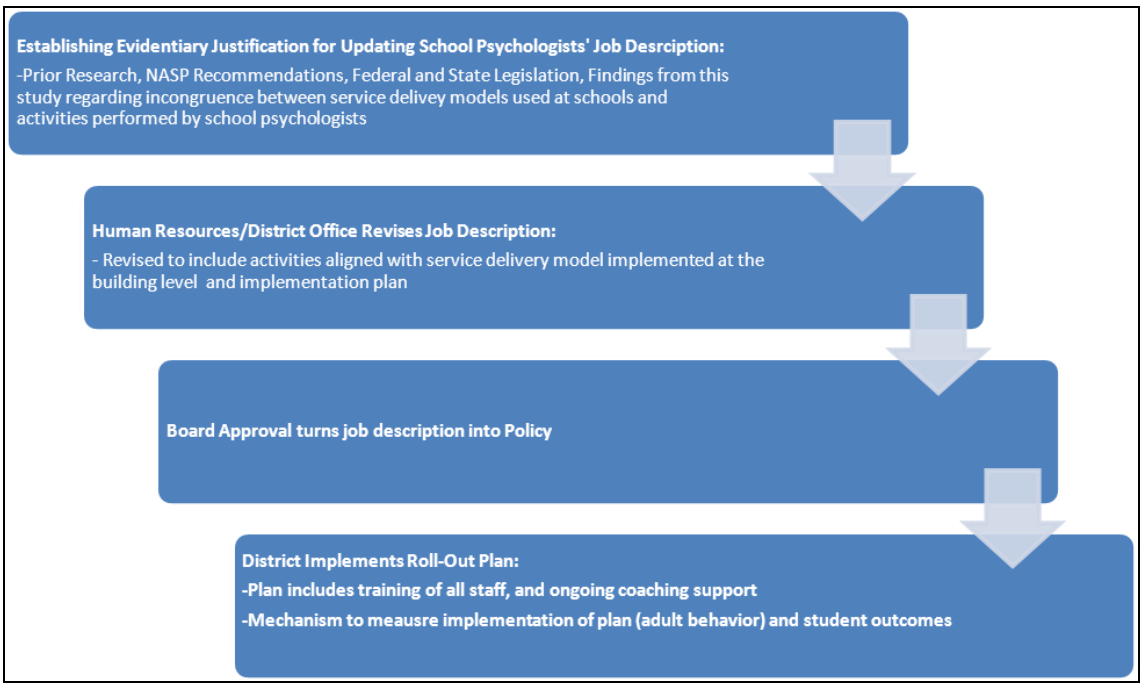

FIGURE 8. Facilitative administration: Steps for practices and system alignment.

scores (80/80 PBIS outcome data). My interpretation of these data was that the actual practices of school psychologists were not in line with the overall building systems for behavioral support. The weak relationship between the School Psychologist Survey and 80/80 PBIS outcomes buttresses my interpretation of Question 1 findings and backs the notion that the sum of parts does not always add up to the whole. These results indicated that school psychologists were still devoting much of their time performing activities consistent with the medical model, testing and placing.

Policy-Enabled Practice, and Practice Informed Policy (PIP-PEP)

Fixsen et al. (2005) believed that a feedback loop was essential to establishing a sustainable PIP-PEP cycle, which included an open communication line between all stakeholders (parents and advocacy groups, unions, principals, school psychologists, etc.) and the form (Policy, Structure, Procedure, and Practice) in which they function. Beginning with a collaborative meeting among the stakeholders, the school psychologist job description is refined and board approved, or made into policy. Subsequent policy formation is a well-designed and structured plan for building capacity in every school to prepare for the implementation of preventative and evidence-based practice by the school psychologist.

This structure includes professional development for a range of staff, including school psychologists, an interview process to recruit and secure candidates with the requisite skills, and an articulated view for staff of how practice aligns with the service delivery model of the school's behavioral system. Administration also needs a procedure for measuring the impact of professional development on their system and the overall efficiency of their program, a time table and tool to use in order to ensure practice and systems alignment (see Appendix K for an example of an administrator's walkthrough tool that could potentially check fidelity of implementation), their own professional development of the ability to distinguish personnel concerns from programmatic concerns, and a communication protocol for staff and district administration on the effectiveness of their system.

Lastly, school psychologists will put into practice their clearly defined activities as per their board-approved job description. Data (e.g., Administrators walk-through tool, School Psychologist Survey versus student outcome data such as Office Discipline Referrals or referrals for special education evaluation) will be tracked by building administration and analyzed by administrative leadership teams cyclically and one time per year (at the minimum) to demonstrate the operational value of the system change (school psychologist job description) in order to inform further policy considerations or adjustments. Fixsen et al. (2005) postulated that this cyclical process will increase the implementation capacity for new practice, retain practices that work, and eliminate those practices that fail the system.

Question 3 Findings and Interpretation

The multiple regression revealed that the SET-General Index (β = -.58) was slightly more predictive of the School Psychologist Survey than the SET-Behavior Expectations Index (β = .53). When the SET was held constant, school psychologists who performed activities that primarily fell under a medical model (referring-testing-placing) of service delivery were practicing in buildings that scored higher on the SET, or that also reported a higher level of PBIS implementation.

The developers of PBIS created the SET as a measure of the degree to which schools are implementing the key features of school-wide PBIS (Horner et al., 2004). My interpretation of the findings from Question 3 was that the SET was not a tool with the sensitivity to ascertain specific staff members' practices or measure their contributions to

the overall implementation of PBIS. In fairness to the developers of the SET, they did not intend to design a tool that drilled down to that level of specificity. However, my findings indicated the need for an additional feature or adding more questions under existing features within the SET to include individual practices of staff members in the building.

For instance, the following questions could be added to the Monitoring and Decision-Making feature:

1. Is there a school psychologist who participates on the PBIS leadership team?

2. Does the school psychologist use data to progress-monitor universal supports, targeted interventions, or supplemental interventions?

3. Does the school psychologist use data to design or support school-wide behavior efforts?

I also propose that an entire new domain be added to the SET called Practice. The Practice feature could include questions that outline roles of team members. For instance, does the school psychologist participate on the PBIS team? Appendix G contains a complete list of questions for the Practice feature of the SET.

Question 4 Findings and Interpretation

As stated in Chapter II, Glover and DiPerna (2007) recognized the selection of an evidence-based practice as the third key component of an RtI framework. NASP's (2010) Model for Comprehensive and Integrated School Psychological Services also stressed the importance of systems-level services and "the incorporation of evidence-based strategies in the design, implementation and evaluation of effective practices in areas such as

discipline . . .” (p. 6). My findings for Question 4 proved counter to these statements, as school psychologists’ practices, in systems that were implementing evidence-based strategies (PBIS) with high fidelity, were more consistent with a medical model.

Survey results evidenced practices that were most consistent with a medical model, but in buildings that had high SET-General Index scores (68.3% of the outcome data) and also high SET-Behavior Expectations Index scores (70.7% of the outcome data). My interpretation of these findings was that school psychologists were performing activities that were compliance related with little to no guidance from district or building administration on how to shift their focus and efforts to preventative activities (see Figures 6 and 7). Similar to Question 1, these findings evidenced disconnect between systems and practices. Again, the ultimate goal is to ensure that practices align with systems, or for the purpose of this study, that activities performed by school psychologists are consistent with the implementation of the building’s behavioral system.

Sugai and Horner (2006) acknowledge integration of four critical elements (systems, data, practices, and outcomes) for sustainability and effectiveness at the building level. Figure 2 visually represents these four critical elements. Given my findings, clearly the element of school psychological services or practices did not blend with the buildings’ systems. This incongruence, or lack of overlap between systems and practices, was further corroborated by ancillary data collected through the School Psychologists Survey that focused on PBIS training sessions attended and implementation of evidence-based practices. Most school psychologists (97.6%) reported participating in at least one PBIS training, and 80.5% reported attending more than five PBIS training

sessions. Again, school psychologists are getting some exposure to professional development on a public health model of service delivery, but by and large, the data from the School Psychologist Survey indicated that the training had not been put into practice at their buildings. Selecting an evidence-based practice is meaningless if there is no application of the practice selected. Moreover, there was a substantial difference between those school psychologists who were trained in implementation of evidence-based practices and those school psychologists (63%) who indicated that they use an evidence-based practice as part of their behavior intervention plans.

These findings support those of Kratochwill et al. (2007), who contended that prior modes of training (i.e., workshops and in-services) have been ineffective in both enhancement of skills and application. All of these findings serve as propellant for questioning ways to better integrate systems and practices.

Pre-Service and In-Service Training Alignment to Systems

Similar to the possible solution suggested for Question 1, role definition is essential, as are activities that complement this role within a building that implements a public health model of service delivery. Embedded in the School Psychologist Survey were possible preventative activities for school psychologists to perform that aligned with the tenets of a public health model. However, the degree to which school psychologists perform these activities is contingent on (a) the quality and content of the preservice and in-service training sessions school psychologists receive; and (b) subsequent, continuous coaching and support from administration.

After completing a study examining practices of school psychologists across nine regions of the United States, Hosp and Reschly (2002) concluded that roles of school psychologists differed for two primary reasons: state mandates and training programs. Preservice training must address the changing landscape new school psychologists face, brought on by external legislative and organizational forces covered in Chapter I. Conoley and Gutkin (1995) stated, "Without expertise in the psychology of systems change, it is highly unlikely that graduates will be able to impel local, state, and national systems change" (p. 211). Most school psychologists practice within the general proximity of where they attended their training program, and therefore have the potential for influencing the service delivery model in the immediate area. Over time, this influence can expand regionally, but it is more powerful and can happen more expeditiously if the training program has a specific focus such as evidence-based intervention strategies and progress monitoring (Hosp & Reschly, 2002).

Therefore, training programs should implement a curriculum focused on tenets of a public health model. Part of this overhaul must include academic rigor addressing comprehensive training in child development, organizational psychology, consultation, health psychology, community psychology, and coursework focused on evidence-based practices, and systems-level thinking and change (Ross & Powell, 2002).

In addition to this coursework, the practicum experience for school psychologists should include the application of these skills in buildings that operate from a public health model of service delivery, and training should extend beyond a practicum experience. As training and coaching provide school psychologists with competencies in

all facets of the system, the potential for them to operate as a trainer, consultant, evaluator, and organizational developer increases (Ross & Powell, 2002).

These competencies fit perfectly with Sugai and Horner's (2006) vision for a functioning member of a school's leadership team. Barnes and Harlacher (2008) agreed with the premise of my study when they postulated that ongoing training should target skills in assessment (i.e., universal screening, progress monitoring, and other formative assessments prior to evaluation for special education) and intervention activities of RtI or implementation of a public health model. These applied skills and competencies will manifest in the coordination of professional development activities that use data to shape practices of staff.

Using Data to Alter Practices and Enhance the Building's System

Horner and Sugai (2002) considered systematic factors such as administrative support, team-based problem solving, and data-based decision-making as a direct link to improving student outcomes. They considered these factors as "organized collections of adult behavior" (p. 29). With this in mind, the School Psychologist Survey, as an informal tool to supplement more research-based tools, has potential for buildings to analyze practices by school psychologists. These data can be fed forward to advance professional development activities, adjust school-improvement plans, align practices to service delivery models, enhance district-wide coaching plans, etc. In addition to the School Psychologist Survey (as seen in Appendix F) and the revised SET (as seen in Appendix G), the administrators' walk-through tool (as seen in Appendix K) is another tool that

could be used to measure how adult behavior is related to the overall implementation of the building's system.

Data collected from both the School Psychologist Survey and the administrators' walk-through tool could serve as the structure for what Glover and DiPerna (2007) referred to as the fifth core component of RtI service delivery, the development and sustainability of systems-level practices. Data derived from these tools could build staff awareness and capacity for systems change. Staff buy-in, or acceptance, leads to altered practice, and optimally an institutionalized approach to providing preventative service within a public health model.

Future Research

My study investigated current school psychological practices within elementary schools that implemented PBIS and also offered recommendations for specific preventative activities school psychologists could perform to establish alignment between systems and practices. According to the *Digest for Education Statistics* (Snyder & Dillow, 2011), there were approximately 98,000 schools in the United States. The OSEP Technical Assistance Center on Positive Behavioral Interventions and Supports (PBIS) reported that roughly 9,000 schools implement PBIS. There are 91,000 public schools that do not implement PBIS. Therefore, additional research is needed to investigate activities school psychologists are performing in schools that are not implementing PBIS, but that do implement programs consistent with a public health model such as First Steps to Success, School-Wide Intervention Program, Project ACHIEVE, Second Step, and

FAST Track. The predictive nature of the School Psychologist Survey could be analyzed against the implementation of these other evidence-based programs.

My second proposal is to replicate the methodology of this study, but with a larger population of schools to measure the interrater reliability of the School Psychologist Survey. This data could be useful in refining the School Psychologist Survey to increase the concordance of the measurement tool, allowing for more confidence that it is reliably capturing preventative activities.

A third proposal for future research is investigating the amount of time related to engagement in traditional evaluation (the medical model) through standardized assessments during the special education process versus formative assessment focusing on universal screening, progress monitoring, and the procedural integrity of both interventions and service provisions (the public health model). My study estimated the frequency an activity was performed, but more precise data regarding the actual amount of time devoted to activities would provide even more evidentiary support toward policy formation devoted to rewriting school psychologists' job descriptions with discourse that supports preventative practice.

Lastly, future research efforts could use the data from my study as a baseline for creating instrumentation that might be more comprehensive in adding empirical evidence on systems change pertaining to service delivery for RTI. This data could be useful for school personnel for conducting evaluations of specific building practices implemented within school districts. A design that includes multiple measurements might allow for a

more comprehensive analysis that is sensitive to all activities school psychologists could perform in relation to a public health model of service delivery.

Future research studies would provide documentation of a valued effect of preventative practices performed by school psychologists on the overall school climate and student outcomes. This research can expand to include a variety of programs that meet the criteria for a public health model of service delivery, and add a layer of accountability for administrators and staff to achieve more congruent practices and systems. Lastly, more research could potentially provide legislation with a research-based discourse that ultimately leads to practice that shapes policy instead of the inverse.

Conclusions

> Almost 30 years ago, Ysseldyke, Reynolds, and Weinberg (1984) professed,
>
> So long as school psychologists permit themselves to be misused in support of non-system schools and child blaming operations, which isolate children having greater needs, they share in the moral burden of our society's growing failure in serving its children. (p. 9)

It is true that school psychologists need to be champions of their own cause, because if they are not, others with potentially less skill, knowledge, and preparation in behavioral systems and psychology will by default assume roles to fill voids in design, implementation, monitoring, and evaluation of interventions at the building level.

However, the burden of responsibility for creating schools and districts that encourage preventative practices rests on the shoulders of other stakeholders too. Building and district administrators who implement programs guided by the tenets of a public health model must align staff practices to their systems of support. Data from my

study indicated practices performed by school psychologists opposed the system. Typically, school psychologists are regarded as the building's behavioral experts, but in my study they were primarily performing practices consistent with a medical model of service delivery. With that said, a disclaimer should be made that this study does not suggest that school psychologists should completely abandon practices under the medical model. Instead, this study suggests that deficit-based assessment as part of the special education evaluation process should be conducted more infrequently and in short duration. There is a significant difference between school psychologists who administer standardized assessments one day a week, but all day, compared to school psychologists who do it one day a week for an hour.

Together, school psychologists and administrators must support RtI legislation by assisting school boards in the formation of local policy that determines practice within schools. They also must advocate for the repeal of federal policies based on compliance, and that perpetuate the referring, testing, and placing of students within a medical model of service delivery. District and school administrators have a difficult time interpreting policy and leading initiatives that seemingly fall under two distinct models of service delivery, given the contradictory nature of RtI legislation under IDEIA (2004). The disjointedness revealed by my study is likely to continue until practice informs policy. Or more artfully stated, prevention in schools will remain a riddle (practice) wrapped in a mystery (service delivery) inside of an enigma (policy).

APPENDIX A

ELEMENTARY SCHOOL RACE AND ETHNICITY PERCENTAGES, 2011-2012

Elementary School Race and Ethnicity Percentages, 2011-12

	White	Black	Hispanic	Asian/Pac Ind/Island	Amer/Alaskan Native	Multi-Ethnic	Total Minority
Ele. School 1	60.1	3.1	19.5	10.8	.6	6.0	39.9
Ele. School 2	38.0	2.8	38.9	14.6	1.1	4.6	62.0
Ele. School 3	51.5	3.6	33.6	7.0	.5	3.9	48.5
Ele. School 4	46.0	7.8	26.0	12.8	1.1	6.3	54.0
Ele. School 5	41.8	7.7	31.6	11.7	1.5	5.6	58.2
Ele. School 6	44.4	6.7	30.6	11.9	2.5	4.0	55.6
Ele. School 7	60.8	4.4	10.3	18.2	.4	5.9	39.2
Ele. School 8	20.5	8.9	59.3	7.9	.5	2.9	79.5
Ele. School 9	22.7	6.3	60.4	7.2	.4	3.0	77.3
Ele. School 10	44.0	3.7	36.9	7.4	.5	7.6	56.0
Ele. School 11	27.9	11.3	46.9	5.4	2.4	6.1	72.1
Ele. School 12	28.4	6.3	58.5	3.3	0	3.6	71.6
Ele. School 13	23.2	16.0	32.2	21.2	.8	6.7	76.8
Ele. School 14	36.2	3.3	46.7	9.7	.8	3.3	63.8
Ele. School 15	65.3	2.3	17.1	5.9	.3	9.2	34.7
Ele. School 16	62.3	2.1	22.5	5.7	.9	6.6	37.7
Ele. School 17	21.1	10.7	49.2	12.4	1.5	5.1	78.9
Ele. School 18	41.9	.7	48.0	4.6	1.3	3.5	58.2
Ele. School 19	46.3	9.6	26.2	12.8	.9	4.3	53.7
Ele. School 20	37.2	9.7	30.7	16.1	1.0	5.4	62.8
Ele. School 21	45.8	9.3	20.7	17.4	.5	6.3	54.2
Ele. School 22	57.1	6.6	14.7	13.6	1.3	6.9	42.9
Ele. School 23	35.7	10.8	32.1	15.4	.3	5.6	64.3
Ele. School 24	44.4	10.8	28.9	8.4	1.4	6.1	55.6
Ele. School 25	36.4	15.9	29.5	14.2	.7	3.4	63.7
Ele. School 26	43.5	10.1	30.5	9.7	.2	6.0	56.5
Ele. School 27	45.2	9.2	26.0	15.3	.9	3.5	54.8
Ele. School 28	34.6	15.4	25.3	18.6	1.1	5.1	65.4
Ele. School 29	43.1	9.5	20.7	17.1	.9	8.8	56.9
Ele. School 30	14.7	11.7	46.2	17.7	.5	9.2	85.3
Ele. School 31	40.1	11.0	22.9	16.1	.7	9.2	59.9
Ele. School 32	87.6	0	8.7	1.5	1.1	1.1	12.4
Ele. School 33	42.3	3.1	46.4	.7	1.0	6.5	57.7
Ele. School 34	81.9	.5	11.6	2.1	.9	3.0	18.1
Ele. School 35	50.7	4.0	36.4	3.6	.8	4.4	49.3

	White	Black	Hispanic	Asian/Pac Ind/Island	Amer/Alaskan Native	Multi-Ethnic	Total Minority
Ele. School 36	63.0	1.0	27.8	2.8	1.2	4.2	37.0
Ele. School 37	64.0	3.3	23.2	2.0	.9	6.7	36.0
Ele. School 38	62.7	2.8	27.7	2.2	.6	4.1	37.3
Ele. School 39	54.4	4.3	31.3	6.5	1.1	2.4	45.6
Ele. School 40	62.0	1.1	27.2	2.0	.7	7.0	38.0
Ele. School 41	69.6	4.0	15.1	2.7	1.7	7.0	30.4

APPENDIX B

ELEMENTARY SCHOOLS FREE AND REDUCED MEALS DATA, ENGLISH LANGUAGE LEARNER, SPECIAL EDUCATION, AND SET 80/80 (GENERAL INDEX/BEHAVIOR EXPECTATIONS) DATA, 2010-2011

Elementary Schools Free and Reduced Meals Data, English Language Learner, Special Education, and SET (80/80 or General Index/Behavior Expectations Index) Data, 2010-2011

	Students	FARMs %	ELL%	SPED%	SET-General Index / SET-Behavior Expect. Index
Ele. School 1	602	50.3	18.8	9.5	92.9/100
Ele. School 2	489	72.6	34.9	10.7	88.5/100
Ele. School 3	459	78.4	36.0	14.5	80.4/100
Ele. School 4	531	78.2	31.3	11.8	82.1/100
Ele. School 5	417	80.1	36.6	12.1	92.9/100
Ele. School 6	402	72.1	31.7	16.2	92.9/100
Ele. School 7	560	47.0	18.2	9.6	91.8/100
Ele. School 8	595	94.3	63.4	9.5	96.4/100
Ele. School 9	463	94.2	51.0	8.6	99.1/100
Ele. School 10	406	77.1	29.3	17.9	99.1/100
Ele. School 11	503	92.5	43.6	12.3	90.2/100
Ele. School 12	472	94.3	56.4	11.5	96.4/100
Ele. School 13	419	73.3	36.4	13.5	100/100
Ele. School 14	470	83.0	43.3	13.8	100/100
Ele. School 15	410	53.7	11.2	14.8	78.9/90
Ele. School 16	404	60.6	17.1	10.7	100/100
Ele. School 17	405	85.9	49.7	8.9	100/100
Ele. School 18	476	75.2	41.8	15.4	76.7/60
Ele. School 19	431	76.1	24.4	16.3	88.5/80
Ele. School 20	403	80.4	27.9	13.4	94.8/80
Ele. School 21	536	81.9	29.4	12.3	78.8/60
Ele. School 22	593	69.1	26.9	8.7	93.2/90
Ele. School 23	599	87.2	42.0	11.2	77.9/60
Ele. School 24	509	76.8	28.0	13.2	92/90
Ele. School 25	531	90.8	55.5	7.2	89/90

	Students	FARMs %	ELL%	SPED%	SET-General Index / SET-Behavior Expect. Index
Ele. School 26	524	82.4	37.3	13.7	82.3/80
Ele. School 27	471	87.5	24.1	11.6	89.1/80
Ele. School 28	384	85.2	37.3	10.6	93/100
Ele. School 29	433	77.6	23.3	9.7	89/90
Ele. School 30	400	89.3	47.6	13.3	90/90
Ele. School 31	389	64.5	21.1	11.0	93/90
Ele. School 32	238	30.7	9.6	11.6	91/90
Ele. School 33	438	78.8	32.0	11.5	90/100
Ele. School 34	430	24.0	6.6	12.6	89/100
Ele. School 35	504	69.8	24.1	12.3	89/100
Ele. School 36	537	51.8	19.3	10.7	96/100
Ele. School 37	460	52.0	15.8	11.9	98/100
Ele. School 38	548	44.7	15.5	10.7	91/70
Ele. School 39	531	52.9	24.1	9.4	91/90
Ele. School 40	426	42.3	13.7	9.2	92/100
Ele. School 41	343	36.7	11.1	12.4	96/100

APPENDIX C

RANGE OF VALUES FOR SCHOOL PSYCHOLOGIST SURVEY

Range of Values for School Psychologist Survey

	0 Rating	***1 Rating***	***2 Rating***	***3 Rating***	***4 Rating***	***5 Rating***	***Total***
Q01 Total	0	5	21	7	3	5	41
Q02 Total	0	9	17	8	4	3	41
Q03 Total	0	2	15	9	8	7	41
Q04 Total	0	12	15	4	4	6	41
Q05 Total	0	10	5	8	8	10	41
Q06 Total	8	13	10	5	3	2	41
Q07 Total	20	11	6	4	0	0	41
Q08 Total	12	19	8	2	0	0	41
Q09 Total	10	18	8	3	1	1	41
Q10 Total	4	23	5	4	4	2	41
Q11 Total	10	12	7	5	1	5	41
Q12 Total	24	12	4	1	0	0	41
Q13 Total	27	11	1	2	0	0	41
Q14 Total	11	17	9	3	1	0	41
Q15 Total	15	14	7	5	0	0	41

APPENDIX D

SCHOOL PSYCHOLOGIST SCHOOL ASSIGNMENTS AND YEARS OF EXPERIENCE, 2011-2012

School Psychologist School Assignment and Experience, 2011-2012

School Psychologist	Schools Assigned	Total Years of Experience
1	1	3.6
2	2,3	3.5
3	4,7	24
4	5,6	13
5	8,10,13	1
6	9,14,17	13
7	11,15,16	1.5
8	12	20
9	18	3
10	19,20,21,24	30
11	22,23	21
12	25,27	13
13	26	6.5
14	28	5
15	29	4
16	30	15
17	31	4
18	32,40	3
19	33	20
20	34,37	18
21	35	11
22	36	14
23	38,41	17
24	39	11

APPENDIX E

SCHOOL PSYCHOLOGISTS' RACE, GENDER, AND GRADUATE SCHOOL ATTENDED

School Psychologists' Race, Gender, and Graduate School Attended

School Psychologist	Race/Ethnicity	Gender	Grad School Attended
1	Caucasian	Female	Lewis & Clark
2	Caucasian	Female	Lewis & Clark
3	Caucasian	Female	Lewis & Clark
4	Caucasian	Female	National University
5	Caucasian	Female	University of Northern Iowa
6	Latina	Female	Cal State of the East Bay
7	Caucasian	Female	John Carroll University
8	Caucasian	Male	Lewis & Clark
9	Caucasian	Female	Lewis & Clark
10	Caucasian	Female	Assumption College
11	Caucasian	Female	Lewis & Clark
12	Caucasian	Female	Lewis & Clark
13	Caucasian	Female	Lewis & Clark
14	Caucasian	Female	Lewis & Clark
15	East Indian	Female	Lewis & Clark
16	Caucasian	Female	Lewis & Clark
17	Caucasian	Female	Lewis & Clark
18	Caucasian	Female	Illinois State University
19	Caucasian	Female	University of Illinois
20	Caucasian	Female	Texas A&M University
21	Caucasian	Female	Brigham Young University
22	Caucasian	Female	University of Florida
23	Caucasian	Female	Loyola University of Chicago
24	Caucasian	Male	University of Northern Colorado

APPENDIX F

SCHOOL PSYCHOLOGIST SURVEY

School Psychologist Survey

Please complete the following survey for each elementary school you are assigned. As per the informed consent that you signed prior to receiving this link, this survey is designed to capture duties performed by school psychologists within elementary school settings. Survey results will remain confidential and will be coded to ensure anonymity. Data from this survey will be used for research purposes only and will not impact employment. This survey was reviewed and approved by the University of Oregon's Human Subjects Department.

Demographic Information

School District

I have participated in a professional development activity focused on preventative practice at some point during this school year?

- Yes
- No

Elementary School Building Where You Work

Is this your principal's first year in the building?

- Yes
- No

School Psychologist's Name

Gender

Race

Graduate School Attended

Total Years of Experience as a School Psychologist

FTE Allocated to Building

Total Years of Experience Worked at this Building

Estimated Caseload Numbers (Include Initial Evaluations in Process and Reevaluations Due for 2011-12)

Estimated number of students in your school who are eligible for special education services under the category of Emotional Disturbance (ED)

How many PBIS trainings do you estimate that you attended during your career as a School Psychologist?

- 0
- 1-2
- 3-4
- More than 5

Survey Items

Each item has a two-part response. Please estimate the amount of time you devoted each month to the following areas from September 2011 through January 2012, and if this area was primarily performed for special education testing-and-placing purposes or for developing, implementing, and/or monitoring interventions.

How often do you administer a standardized assessment (cognitive, adaptive, behavioral and/or academic) as part of an initial or three year reevaluation?

- Never
- 1-2 times per month
- 3-4 times per month
- 5-6 times per month
- 7-8 times per month
- More than 9 times per month

This activity was primarily performed for:

- Special education testing-and-placing purposes
- Developing, implementing, and monitoring interventions

How often do you either conduct an observation or observation data as part of an initial or three year reevaluation?

- Never
- 1-2 times per month
- 3-4 times per month
- 5-6 times per month
- 7-8 times per month
- More than 9 times per month

This activity was primarily performed for:

- Special education testing-and-placing purposes
- Developing, implementing, and monitoring interventions

How often do you participate in meetings related to the special education process I.e., parent permission to evaluate, eligibility, placement, or IEP meeting)?

- Never
- 1-2 times per month
- 3-4 times per month
- 5-6 times per month
- 7-8 times per month
- More than 9 times per month

This activity was primarily performed for:

- Special education testing-and-placing purposes
- Developing, implementing, and monitoring interventions

What frequency do you complete documentation related to the special education process (I.e., Written psycho-educational reports, or any other written communication used in part for eligibility, placement, or special education services)?

- Never
- 1-2 times per month
- 3-4 times per month
- 5-6 times per month
- 7-8 times per month
- More than 9 times per month

This activity was primarily performed for:

- Special education testing-and-placing purposes
- Developing, implementing, and monitoring interventions

How often do you provide consultation to staff for students who receive special education services?

- Never
- 1-2 times per month
- 3-4 times per month
- 5-6 times per month
- 7-8 times per month
- More than 9 times per month

This activity was primarily performed for:

- Special education testing-and-placing purposes
- Developing, implementing, and monitoring interventions

How often do you use data personally or as a member of a team to monitor responses of general education students to behavioral interventions?

- Never
- 1-2 times per month
- 3-4 times per month
- 5-6 times per month
- 7-8 times per month
- More than 9 times per month

This activity was primarily performed for:

- Special education testing-and-placing purposes
- Developing, implementing, and monitoring interventions

What frequency do you report progress monitoring data to a problem solving team or PBIS team related to the effectiveness of behavioral interventions for general education students?

- Never
- 1-2 times per month
- 3-4 times per month
- 5-6 times per month

- 7-8 times per month
- More than 9 times per month

This activity was primarily performed for:

- Special education testing-and-placing purposes
- Developing, implementing, and monitoring interventions

How often do you adjust behavioral interventions for general education students based on progress monitoring data?

- Never
- 1-2 times per month
- 3-4 times per month
- 5-6 times per month
- 7-8 times per month
- More than 9 times per month

This activity was primarily performed for:

- Special education testing-and-placing purposes
- Developing, implementing, and monitoring interventions

How often do you include evidenced based practices as a part of your behavior intervention plans?

- Never
- 1-2 times per month
- 3-4 times per month
- 5-6 times per month
- 7-8 times per month
- More than 9 times per month

This activity was primarily performed for:

- Special education testing-and-placing purposes
- Developing, implementing, and monitoring interventions

How often do you provide direct or indirect support for behavioral interventions for general education students?

- Never
- 1-2 times per month

- 3-4 times per month
- 5-6 times per month
- 7-8 times per month
- More than 9 times per month

This activity was primarily performed for:

- Special education testing-and-placing purposes
- Developing, implementing, and monitoring interventions

What frequency do you perform direct or indirect consultative activities with staff to help implement data based intervention?

- Never
- 1-2 times per month
- 3-4 times per month
- 5-6 times per month
- 7-8 times per month
- More than 9 times per month

This activity was primarily performed for:

- Special education testing-and-placing purposes
- Developing, implementing, and monitoring interventions

How often do you design and/or conduct a behavior assessment to measure fidelity of an intervention for general education students?

- Never
- 1-2 times per month
- 3-4 times per month
- 5-6 times per month
- 7-8 times per month
- More than 9 times per month

This activity was primarily performed for:

- Special education testing-and-placing purposes
- Developing, implementing, and monitoring interventions

Indicate how often you present professional development or disseminate material about functional behavioral assessments (FBA) to staff.

- Never
- 1-2 times per month
- 3-4 times per month
- 5-6 times per month
- 7-8 times per month
- More than 9 times per month
- Annually

This activity was primarily performed for:

- Special education testing-and-placing purposes
- Developing, implementing, and monitoring interventions

How often do you consult with teachers or other staff members on conducting an FBA for a general education student?

- Never
- 1-2 times per month
- 3-4 times per month
- 5-6 times per month
- 7-8 times per month
- More than 9 times per month

This activity was primarily performed for:

- Special education testing-and-placing purposes
- Developing, implementing, and monitoring interventions

How often do you discuss FBA data with your problem solving team and/or PBIS team?

- Never
- 1-2 times per month
- 3-4 times per month
- 5-6 times per month
- 7-8 times per month
- More than 9 times per month

This activity was primarily performed for:

- Special education testing-and-placing purposes
- Developing, implementing, and monitoring interventions

Please provide feedback regarding completion of this survey Considerations included but are not limited to: usability, clarity of questions, etc.

Submit

APPENDIX G

SET-REVISED WITH PRACTICES FEATURE

*Denotes added “Practices” feature

School-wide Evaluation Tool
(SET)
Scoring Guide

School _____ **Date** _____

District _____ **State** _____

Pre _____ **Post** _____ **SET data collector** _____

Feature	Evaluation Question	Data Source (circle sources used) P= product; I= interview; O= observation	Score: 0-2
A. Expectations Defined	1. Is there documentation that staff has agreed to 5 or fewer positively stated school rules/ behavioral expectations? (0=no; 1= too many/negatively focused; 2 = yes)	Discipline handbook, Instructional materials Other _____ **P**	
	2. Are the agreed upon rules & expectations publicly posted in 8 of 10 locations? (See interview & observation form for selection of locations). (0= 0-4; 1= 5-7; 2= 8-10)	Wall posters Other _____ **O**	
B. Behavioral Expectations Taught	1. Is there a documented system for teaching behavioral expectations to students on an annual basis? (0= no; 1 = states that teaching will occur; 2= yes)	Lesson plan books, Instructional materials Other _____ **P**	
	2. Do 90% of the staff asked state that teaching of behavioral expectations to students has occurred this year? (0= 0-50%; 1= 51-89%; 2=90%-100%)	Interviews Other _____ **I**	
	3. Do 90% of team members asked state that the school-wide program has been taught/reviewed with staff on an annual basis? (0= 0-50%; 1= 51-89%; 2=90%-100%)	Interviews Other _____ **I**	
	4. Can at least 70% of 15 or more students state 67% of the school rules? (0= 0-50%; 1= 51-69%; 2= 70-100%)	Interviews Other _____ **I**	
	5. Can 90% or more of the staff asked list 67% of the school rules? (0= 0-50%; 1= 51-89%; 2=90%-100%)	Interviews Other _____ **I**	

Feature	Evaluation Question	Data Source (circle sources used) P= product; I= interview; O= observation		Score: 0-2
C. On-going System for Rewarding Behavioral Expectations	1. Is there a documented system for rewarding student behavior? (0= no; 1= states to acknowledge, but not how; 2= yes)	Instructional materials, Lesson Plans, Interviews Other _____	**P**	
	2. Do 50% or more students asked indicate they have received a reward (other than verbal praise) for expected behaviors over the past two months? (0= 0-25%; 1= 26-49%; 2= 50-100%)	Interviews Other _____	**I**	
	3. Do 90% of staff asked indicate they have delivered a reward (other than verbal praise) to students for expected behavior over the past two months? (0= 0-50%; 1= 51-89%; 2= 90-100%)	Interviews Other _____	**I**	
D. System for Responding to Behavioral Violations	1. Is there a documented system for dealing with and reporting specific behavioral violations? (0= no; 1= states to document; but not how; 2 = yes)	Discipline handbook, Instructional materials Other _____	**P**	
	2. Do 90% of staff asked agree with administration on what problems are office-managed and what problems are classroom–managed? (0= 0-50%; 1= 51-89%; 2= 90-100%)	Interviews Other _____	**I**	
	3. Is the documented crisis plan for responding to extreme dangerous situations readily available in 6 of 7 locations? (0= 0-3; 1= 4-5; 2= 6-7)	Walls Other _____	**O**	
	4. Do 90% of staff asked agree with administration on the procedure for handling extreme emergencies (stranger in building with a weapon)? (0= 0-50%; 1= 51-89%; 2= 90-100%)	Interviews Other _____	**I**	
E. Monitoring & Decision-Making	1. Does the discipline referral form list (a) student/grade, (b) date, (c) time, (d) referring staff, (e) problem behavior, (f) location, (g) persons involved, (h) probable motivation, & (i) administrative decision? (0=0-3 items; 1= 4-6 items; 2= 7-9 items)	Referral form (circle items present on the referral form)	**P**	
	2. Can the administrator clearly define a system for collecting & summarizing discipline referrals (computer software, data entry time)? (0=no; 1= referrals are collected; 2= yes)	Interview Other _____	**I**	
	3. Does the administrator report that the team provides discipline data summary reports to the staff at least three times/year? (0= no; 1= 1-2 times/yr.; 2= 3 or more times/yr)	Interview Other _____	**I**	
	4. Do 90% of team members asked report that discipline data is used for making decisions in designing, implementing, and revising school-wide effective behavior support efforts? (0= 0-50%; 1= 51-89%; 2= 90-100%)	Interviews Other _____	**I**	

Feature	Evaluation Question	Data Source (circle sources used) P= product; I= interview; O= observation	Score: 0-2
F. Management	1. Does the school improvement plan list improving behavior support systems as one of the top 3 school improvement plan goals? (0= no; 1= 4th or lower priority; 2 = 1st- 3rd priority)	School Improvement Plan, P Interview Other _____ I	
	2. Can 90% of staff asked report that there is a school-wide team established to address behavior support systems in the school? (0= 0-50%; 1= 51-89%; 2= 90-100%)	Interviews Other _____ I	
	3. Does the administrator report that team membership includes representation of all staff? (0= no; 2= yes)	Interview Other _____ I	
	4. Can 90% of team members asked identify the team leader? (0= 0-50%; 1= 51-89%; 2= 90-100%)	Interviews Other _____ I	
	5. Is the administrator an active member of the school-wide behavior support team? (0= no; 1= yes, but not consistently; 2 = yes)	Interview Other _____ I	
	6. Does the administrator report that team meetings occur at least monthly? (0=no team meeting; 1=less often than monthly; 2= at least monthly)	Interview Other _____ I	
	7. Does the administrator report that the team reports progress to the staff at least four times per year? (0=no; 1= less than 4 times per year; 2= yes)	Interview Other _____ I	
	8. Does the team have an action plan with specific goals that is less than one year old? (0=no; 2=yes)	Annual Plan, calendar Other _____ P	
G. District-Level Support	1. Does the school budget contain an allocated amount of money for building and maintaining school-wide behavioral support? (0= no; 2= yes)	Interview Other _____ I	
	2. Can the administrator identify an out-of-school liaison in the district or state? (0= no; 2=yes)	Interview Other _____ I	
H. Practices	School Psychologist: 1.Is the school psychologist a member of your PBIS team? (0= no; 2=yes)	Interview Other _____ I	
	2. Does the school psychologist discuss FBA data with your problem solving team and/or PBIS team? (0= no; 2=yes)	Interview Other _____ I	
	3. Does the school psychologist design and/or conduct a behavior assessment to measure fidelity of an intervention for general education students? (0= no; 2=yes)	Interview Other _____ I	
	4.Does your school psychologist provide direct or indirect support for behavioral interventions for general education students? (0= no; 2=yes)	Interview Other _____ I	
	5. Does the school psychologist analyze school-wide data for decision making ?(0= no; 2=yes)	Interview Other _____ I	
	*Note added feature to SET must be used district-wide to ensure consistent practices and service delivery alignment. However, when reporting to PBIS network, H or the practices feature can be removed,		

Summary Scores:					
	A = /4	B = /10	C = /6	D = /8	E = /8
	F =	G = /4	H= /10	Mean = /8	

APPENDIX H

SCHOOL PSYCHOLOGIST FOCUS GROUP

Operationally Defining Prevention (School Psychologist Focus Group- 3/13/2010)

I. FBA

a.) Number of ABC(s), Brief and comprehensive, Decision rules determining cut points (e.g., number of referrals)

b.) Staff Training/Consultation: Preparation for training/gathering materials, presentation, post-presentation training and coaching/consultation

c.) Consultation

II. BIP

a.) FBA tool kit, meeting facilitation/coordination, development of intervention plan, implementation fidelity including checks for contextual fit and ongoing monitoring/adjustments

III. Development, Support and Monitor Core, Targeted and Supplemental Behavioral Instruction

Core:

a.) Participation in teams at instructional levels including PBIS

b.) Extending Community Building (Core)

c.) Staff development focused on Community Building

d.) Participation in PLC grade level teams

Targeted:

a.) Helping to sustain CICO

b.) Help to develop alternate intervention to CICO for students who are attempting to avoid adult/student attention

c.) Staff development

d.) Participate on problem solving teams, data review teams, etc.

IV. Direct Instruction (Academic and Behavior)

a.) Social Skills Groups

b.) De-escalation strategies

c.) Academic Instruction

V. Risk Screen

VI. Test-and-Place (initial and three year reevaluations) students for purposes of receiving special education support

APPENDIX I

SCHOOL PSYCHOLOGIST JOB DESCRIPTION

*(Denotes contractual language aligning practices to a behavioral system within a building implementing a public health model of service delivery (E.g., PBIS)

JOB DESCRIPTION – LICENSED

JOB TITLE: Psychologist

Job Purpose Statement/s: The position of "Psychologist" is for the purpose/s of building and maintaining the capacities of systems and improving competencies for all students. The "Psychologist" will effectively use data from assessments to match students to the appropriate tier (Universal, Targeted, and/or Supplemental) of instruction and intervention, and progress monitor the effectiveness of this instruction and intervention. In addition, school psychologists will provide building staff with information for program development that supports the implementation of evidence-based practices (PBIS) at the building he/she is assigned. In addition, the "Psychologist" is for the purpose/s of assessing students' intellectual and mental functional levels; providing information for program development and student placement, developing behavior plans; and providing information on child development and/or issues on specific students to instructional personnel.

Essential Job Functions:

- **Assess** through the FBA process, general education students' functional capabilities and home and/or classroom environment for the purpose of determining student's functional level and developing recommendations for the appropriate intensity of tiered intervention and/or instruction, and/or placement.
- **Analyze** and collect school-wide data for the purposes of monitoring the effectiveness of the system, identification of needs within the system, and enhancing student outcomes
- **Assist** in Child Find activities within District's community.
- **Consult and collaborate** at the individual, family, group, and systems level for the purpose of providing requested information, developing intervention and instructional plans, and monitor the fidelity of implementation of these

plans in order to make adjustments or modifications responsive to student needs

- **Counsel** students, parents and guardians for the purpose of enhancing student success in school.
- **Facilitate** communication between students and/or parents with teachers and/or other personnel for the purpose of evaluating situations, solving problems and/or resolving conflicts. Effectively implement a social skills curriculum program that has strong empirical support as a target
- **Facilitate** meetings (e.g. IEP conferences, parent meetings, in-services, etc.) for the purpose of developing plans and/or providing information regarding students' functional goals.
- **Implement and monitor** Tier II interventions with strong empirical support (E.g.,Check-in, Check-Out)
- **Incorporate** techniques for data collection, analyses, and accountability in the evaluation of services delivered. The Psychologists will use the School Psychologist Survey (SPS) 2 x per year to ensure practices are aligning to the service delivery model at the building
- **Intervene** in occurrences of inappropriate behavior of students for the purpose of assisting students in modifying such behavior and developing successful interpersonal skills.
- **Participate** in various meetings (e.g. parent conferences, in-service training, site meetings, etc.) for the purpose of receiving and/or providing information and/or meeting credential requirements.

- **Participate** on your building's PBIS leadership team for the purpose of applying a problem-solving framework to use data that guides all professional activities including, but not limited to (effectiveness of interventions and instruction across all tiers, treatment fidelity, special education eligibility determination, systems improvement and sustainability, trainings, etc.)
- **Prepare** documentation (e.g. evaluations, observations, progress, contacts with parents, teachers and outside professionals, etc.) for the purpose of providing written support, developing recommendations and/or conveying information.
- **Present** information on various topics related to area of professional expertise in psychology for the purpose of promoting preventative efforts guided by a public health model of service delivery.
- **Research** resources and methods (i.e. intervention and treatment techniques, assessment tools and methods, community resources, etc.) for the purpose of determining appropriate approach for addressing students' specific needs.
- **Supervise** interns for the purpose of monitoring performance, providing for professional growth and achieving overall objectives of school's curriculum in line with NASP's Model for Comprehensive and Integrated School Psychological Services, and relation to practices aligning to a public health model of service delivery.

Other Job Functions:

- **Assist** other personnel as may be required for the purpose of supporting them in the completion of their work activities.

Job Requirements – Qualifications:

- **Experience Preferred:** Prior job related experience.

- **Skills, Knowledge and/or Abilities Required:**

  Skills to apply assessment instruments, intervene in crisis situations, provide counseling, interpret test data, and communicate effectively. To systematically collect data from multiple sources to guide the decision making process with consideration to all ecological factors.

  Knowledge of assessment instruments and their application, relevant education codes, state and district policies, and the foundational aspect of Response to Intervention/Public Health Model of Service Delivery

  Abilities to sit for prolonged periods, complete a case study and develop an individual education plan, be flexible, work under time constraints, work effectively with staff, parents, students and community, work independently. Significant physical abilities include lifting/carrying, reaching/handling/fingering, talking/hearing conversations, and near/far visual acuity/visual accommodation.

- **Licensure required:** State of Oregon, Personnel Service License, School Psychologist and Criminal Justice Fingerprint clearance.

- **Other:** First aid card and cardiopulmonary resuscitation certificate.

Terms of Employment: 192 days per year. Salary to be established by collective bargaining agreement.

Evaluation: Performance of this job will be evaluated each year in accordance with provisions of the Board's Policy on Evaluation of Licensed Staff. Reports to the Director of Student Services.

Reviewed and agreed to by:

_____
Employee Signature

_____
Date

APPENDIX J

SCHOOL-WIDE EVALUATION TOOL (SET) SCORING GUIDE

School-wide Evaluation Tool
(SET)
Scoring Guide

School _____ **Date** _____

District _____ **State** _____

Pre _____ **Post** _____ **SET data collector** _____

Feature	Evaluation Question	Data Source (circle sources used) P= product; I= interview; O= observation	Score: 0-2
A. Expectations Defined	1. Is there documentation that staff has agreed to 5 or fewer positively stated school rules/ behavioral expectations? (0=no; 1= too many/negatively focused; 2 = yes)	Discipline handbook, Instructional materials Other _____ **P**	
	2. Are the agreed upon rules & expectations publicly posted in 8 of 10 locations? (See interview & observation form for selection of locations). (0= 0-4; 1= 5-7; 2= 8-10)	Wall posters Other _____ **O**	
B. Behavioral Expectations Taught	1. Is there a documented system for teaching behavioral expectations to students on an annual basis? (0= no; 1 = states that teaching will occur; 2= yes)	Lesson plan books, Instructional materials Other _____ **P**	
	2. Do 90% of the staff asked state that teaching of behavioral expectations to students has occurred this year? (0= 0-50%; 1= 51-89%; 2=90%-100%)	Interviews Other _____ **I**	
	3. Do 90% of team members asked state that the school-wide program has been taught/reviewed with staff on an annual basis? (0= 0-50%; 1= 51-89%; 2=90%-100%)	Interviews Other _____ **I**	
	4. Can at least 70% of 15 or more students state 67% of the school rules? (0= 0-50%; 1= 51-69%; 2= 70-100%)	Interviews Other _____ **I**	
	5. Can 90% or more of the staff asked list 67% of the school rules? (0= 0-50%; 1= 51-89%; 2=90%-100%)	Interviews Other _____ **I**	
C. On-going System for Rewarding Behavioral Expectations	1. Is there a documented system for rewarding student behavior? (0= no; 1= states to acknowledge, but not how; 2= yes)	Instructional materials, Lesson Plans, Interviews Other _____ **P**	
	2. Do 50% or more students asked indicate they have received a reward (other than verbal praise) for expected behaviors over the past two months? (0= 0-25%; 1= 26-49%; 2= 50-100%)	Interviews Other _____ **I**	
	3. Do 90% of staff asked indicate they have delivered a reward (other than verbal praise) to students for expected behavior over the past two months? (0= 0-50%; 1= 51-89%; 2= 90-100%)	Interviews Other _____ **I**	
D. System for Responding to Behavioral	1. Is there a documented system for dealing with and reporting specific behavioral violations? (0= no; 1= states to document; but not how; 2 = yes)	Discipline handbook, Instructional materials Other _____ **P**	

Feature	Evaluation Question	Data Source (circle sources used) P= product; I= interview; O= observation	Score: 0-2
Violations	2. Do 90% of staff asked agree with administration on what problems are office-managed and what problems are classroom–managed? (0= 0-50%; 1= 51-89%; 2= 90-100%)	Interviews Other _____ **I**	
	3. Is the documented crisis plan for responding to extreme dangerous situations readily available in 6 of 7 locations? (0= 0-3; 1= 4-5; 2= 6-7)	Walls Other _____ **O**	
	4. Do 90% of staff asked agree with administration on the procedure for handling extreme emergencies (stranger in building with a weapon)? (0= 0-50%; 1= 51-89%; 2= 90-100%)	Interviews Other _____ **I**	
E. Monitoring & Decision-Making	1. Does the discipline referral form list (a) student/grade, (b) date, (c) time, (d) referring staff, (e) problem behavior, (f) location, (g) persons involved, (h) probable motivation, & (i) administrative decision? (0=0-3 items; 1= 4-6 items; 2= 7-9 items)	Referral form (circle items present on the referral form) **P**	
	2. Can the administrator clearly define a system for collecting & summarizing discipline referrals (computer software, data entry time)? (0=no; 1= referrals are collected; 2= yes)	Interview Other _____ **I**	
	3. Does the administrator report that the team provides discipline data summary reports to the staff at least three times/year? (0= no; 1= 1-2 times/yr.; 2= 3 or more times/yr)	Interview Other _____ **I**	
	4. Do 90% of team members asked report that discipline data is used for making decisions in designing, implementing, and revising school-wide effective behavior support efforts? (0= 0-50%; 1= 51-89%; 2= 90-100%)	Interviews Other _____ **I**	
F. Management	1. Does the school improvement plan list improving behavior support systems as one of the top 3 school improvement plan goals? (0= no; 1= 4th or lower priority; 2 = 1st- 3rd priority)	School Improvement Plan, **P** Interview Other _____ **I**	
	2. Can 90% of staff asked report that there is a school-wide team established to address behavior support systems in the school? (0= 0-50%; 1= 51-89%; 2= 90-100%)	Interviews Other _____ **I**	
	3. Does the administrator report that team membership includes representation of all staff? (0= no; 2= yes)	Interview Other _____ **I**	
	4. Can 90% of team members asked identify the team leader? (0= 0-50%; 1= 51-89%; 2= 90-100%)	Interviews Other _____ **I**	
	5. Is the administrator an active member of the school-wide behavior support team? (0= no; 1= yes, but not consistently; 2 = yes)	Interview Other _____ **I**	
	6. Does the administrator report that team meetings occur at least monthly? (0=no team meeting; 1=less often than monthly; 2= at least monthly)	Interview Other _____ **I**	
	7. Does the administrator report that the team reports progress to the staff at least four times per year? (0=no; 1= less than 4 times per year; 2= yes)	Interview Other _____ **I**	
	8. Does the team have an action plan with specific goals that is less than one year old? (0=no; 2=yes)	Annual Plan, calendar Other _____ **P**	

Feature	Evaluation Question		Data Source (circle sources used) P= product; I= interview; O= observation		Score: 0-2
G. District-Level Support	1. Does the school budget contain an allocated amount of money for building and maintaining school-wide behavioral support? (0= no; 2= yes)		Interview Other _____	I	
	2. Can the administrator identify an out-of-school liaison in the district or state? (0= no; 2=yes)		Interview Other _____	I	
Summary Scores:	A = /4	B = /10	C = /6	D = /8	E = /8
	F =	G = /4	Mean = /7		

APPENDIX K

ADMINISTRATORS' WALK-THROUGH TOOL

Administrators' Walk-Through Guidelines

The purpose of the Administrators Walk-Through is to gather data on what is happening with the school's behavioral system related to a specific practices performed by school psychologists. It is not an evaluation of individual school psychologists, but is a snapshot of the degree to which practice is aligned to the overall behavioral system of the school building.

- Walk-trhoughs last approximately 10 minutes each. This may vary, depending on the focus of the visit.

- 4 walk-throughs are conducted over the course of the school year representing one walk-through per domain.

- Observers remain as unobtrusive as possible. When they ask questions, it is done post-walk-through

- The specifics of what is to be observed or asked are recorded on the Walk-through Observation Form as the visits are made. Not all aspects included under each domain will be observed in one visit. However, all aspects should be included in the action planning during the post-observation discussion

- Walk-through data is used to discuss options for enhancing practices and aligning these practices to the building system. Actionable steps are created with a timeline and metric for determining completion

- Walk-through data is also reviewed annually with other building administrators to ensure consistent practices district-wide

School:_____ Building Administrator:_____
School Psychologist:_____

Domain 1: *Progress Monitoring and Problem Solving* **Date:**

CORE:

School psychologist helped team interpret universal data (E.g., ODR(s) on the playground) to monitor and/or adjust the effectiveness of schoorl-wide supports Yes/No

School psychologist participated on the PBIS leadership team and promoted action oriented problems solving to sustain a safe, supportive, and effective learning environment across all contexts (classroom/non-classroom) Yes/No

School psychologist helped team determine to adjust the universal Support or whether students needed targeted support based on the analysis and interpretation of universal data (I.e, patterns for ODR(s) based on time, location, group, behavior, etc.) Yes/No

TARGETED:

School psychologist helped to design the Targeted support, timeline for implementation (including fidelity checks), and measure of its effectivenes Yes/No

School psychologist participated on a problem solving team using data to determine the effectiveness of the targeted intervention Yes/No

School psychologist consulted with staff and referenced progress monitoring data to adjust or modify the support Yes/No

SUPPLEMENTAL:

School psychologists used assessment data from the Targeted support as part of the functional behavior assessment (FBA) process Yes/No

School psychologist used progress monitoring data to guide the team through the FBA process with the goal of determining the function of behavior and assessing the contextual fit of the BIP Yes/No

School psychologist consulted with staff using progress monitoring data to adjust behavior intervention plan (BIP) Yes/No

Post-Observation Actionable Steps to Enhance Practices Under Domain 1:

Actionable Step	How does this practice align to the building system?	Timeline for Completion	How do we know it was completed (Metric)?

Domain 2: *Assessment and Intervention Design* **Date:**

CORE:

Used assessment techniques with teams at instructional levels (E.g., reviewed ODR(s) and facilitated a problem solving process with PBIS and/or grade level PLC(s) to adjust core behavioral instruction **Yes/No**

Used school-wide assessment data to inform PBIS team's discussion to determine effectiveness and sustainability of universal supports **Yes/ No**

Participated on leadership team by using school-wide data And collection procedures to measure the effectiveness of universal supports **Yes/No**

TARGETED:

School psychologist helped team determine to adjust the universal Support or whether students needed targeted support based on the analysis and interpretation of universal data (I.e, patterns for ODR(s) based on time, location, group, behavior, etc.) **Yes/No**

Directly provided Targeted intervention support to students. **Yes/No**

Consulted with building staff on implementing evidence-based targeted supports. **Yes/No**

Consulted with building staff using data to determine if the targeted support was accurately designed to meet the identified function of behavior **Yes/No**

SUPPLEMENTAL:

Used data (decision rules based on progress monitoring data) to identify when a student needs more individualized support. **Yes/No**

FBA(s) are conducted to identify the function of behavior and contextual fit of BIP. **Yes/No**

BIP(s) are based on data gathered during from Core and Targeted interventions as wells as the FBA process and include the following: monitoring plan, implementation fidelity check, staff training, and a way to assess contextual fit. **Yes/No**

Post-Observation Actionable Steps to Enhance Practices Under Domain 2:

Actionable Step	How does this practice align to the building system?	Timeline for Completion	How do we know it was completed (Evidence)?

Domain 3: *Training school staff (assess, intervene, use data for decision making* **Date:**

CORE:

School psychologist used universal data to guide staff training for core behavior support **Yes/No**

School psychologist provided training to staff that reinforced core behavior instruction in all areas (classroom and common areas) **Yes/No**

School psychologist (in collaboration or individually) promoted the behavioral system (tiered intervention and assessment) during a staff meeting or other in-service time **Yes/No**

School psychologist was actively involved in the school improvement Process **Yes/No**

TARGETED:

School psychologist trained staff in implementing an evidence-based practice focused on Targeted support **Yes/No**

School psychologists trained staff on an appropriate method for data collection for Targeted student support within a coaching model to allow for ongoing support
Yes/No

School psychologist trained staff on procedures for requesting more individualized student support **Yes/No**

SUPPLEMENTAL:
School psychologist led staff training on the FBA/BIP process including but not limited to: review of forms for monitoring, implementation fidelity, data collection, contextual fit, competing pathways, and system alignment. **Yes/No**

Post-Observation Actionable Steps to Enhance Practices Under Domain 3:

Actionable Step	How does this practice align to the building system?	Timeline for Completion	How do we know it was completed (Metric)?

Domain 4: *Implementation Fidelity/Integrity* **Date:**

CORE:

School psychologist used a tool(s) to determine the fidelity of implementation of school-wide supports, and used data to provide suggestions for the enhancement of the system **Yes/No**

School psychologist referenced implementation data prior to considering more intensive support for a student **Yes/No**

TARGETED:

School psychologist used a tool(s) to determine the fidelity of implementation of Targeted supports, and used data to provide suggestions for the enhancement of the system **Yes/No**

School psychologist referenced implementation data prior to considering more intensive support for a student who demonstrated non-threatening behavior to self/others **Yes/No**

SUPPLEMENTAL:

School psychologist analyzed fidelity/integrity data for core and targeted supports prior to starting the FBA/BIP process **Yes/No**

The FBA/BIP was analyzed to include ecological adjustments prior to a referral for special education evaluation **Yes/No**

Post-Observation Actionable Steps to Enhance Practices Under Domain 4:

Actionable Step	How does this practice align to the building system?	Timeline for Completion	How do we know it was completed (Metric)?

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